Compact disc recorder **2nd line Service Manual**

CDR570
CDR770
CDR775
CDR930
CDR950

Service
Service
Service

Service Manual

COMPACT disc DIGITAL AUDIO ReWritable
COMPACT disc DIGITAL AUDIO Recordable ReWritable
COMPACT disc DIGITAL AUDIO Recordable
COMPACT disc DIGITAL AUDIO

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PHILIPS

1. Technical Specifications/Introduction.

In this document the important issues for the mechanical and electrical testing, adjusting, checking and diagnosing of the Digital Audio CDR Module such as applied in so-called 3rd generation CDR recorders is described.
In this first chapter is presented the introduction of the repair manual for 2nd line repair workshops. In contains the repair instructions of the CDR Module CDL4009 + Mainboard 4228.
All modules consist of the same loader + CDM part, the mounting of the components on the Mainboard deviates form each other. For that reason a separate CDR-module has been defined for each type/modelnumber.
On top of that: Each mainboard connected to another CDM has to adjusted before that module can be used. To have this module on component level repaired this second line service (repair) manual has to used in combination with the "first" line service manual of mentioned typenumber. As long as the adjustment instructions can not be carried out, the module has to be exchanged by an adjusted one from Service stock in case of repairs concerning CDM and/or Servo circuits.
Chapter 2 contains the required safety instructions, in chapter 3 a referring to the directions for use, as published in the typenumber Service Manual, is made.
In chapter 4 the mechanical exploded view of the complete module, the loading part and the CDM3800 is presented. This chapter also includes the mounting, demounting, cleaning and greasing instruction.
In chapter 5 the internal selfdiagnostics without opening the set and use of other tools is described in the service modes. The faultfinding trees and repair suggestions like the power supply voltages for proper functioning of the mainboard are indicated there too. This chapter also contains initialising and reset, concerned measuring points are highlighted. For proper functioning of all ICs the clockfrequencies have to be tested and the importance of derived clockfrequencies is shown. and and how to operate with the menu driven diagnostics. Via a PC connection (serial input socket RS232C) the Menu Driven Diagnostics feature is started.
To improve the interactivity and communication with the set/ module the COMPAIR (the for service designed computer aided repair) tool is supported too by this CDR generation. Details to be defined soonest and will be published by a service information bulletin later on.
Via blockdiagrams of applied boards the common issues of all boards are shown and in short explained in chapter 6.
In chapter 7 the circuit diagrams and printed wiring boards with important measuring points are shown.
The adjustment of the laser current (only one important and necessary adjustment has to be carried out, the rest of the adjustments are calcultated from that parameter onwards) will be presented in chapter 8. The needed PC program is under investigation now and with the implentation of COMPAIR this adjustment action will be explained. The method how to align the software, if needed, is indicated here.
In chapter 9 reference is made to existing 3rd generation circuit description in which publication a lot of details about the functioning of the set is explained.
Also the list of abbreviations is inserted here.
Finally a survey of applied components and corresponding service ordering numbers is given in chapter 10.
As the Mainboard 4228 is designed to be applied for several modelnumbers this board contains a lot of optional components.
The most extended board is modelnumber CDR775 where double speed dubbing feature is applied too.

2. Safety and Maintenance instructions warnings and notes

(GB) **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

(NL) **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor elektrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise a leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller a ce que les composants ainsi que les outils que l'on utilise soient également a ce potentiel.

(D) **WARNUNG**

Alle IC und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, das Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della piu grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt terug gebracht en dat onderdelen, identiek aan de gespecifieerde worden toegepast.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten.
Der Originalzustand des Gerats darf nicht verandert werden.
Fur Reparaturen sind Original-Ersatzteile zu verwenden.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago idetici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis a l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

CAUTION
VARO!
VARNING
ADVERSEL
DANGER
VORSICHT

INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING.
INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

SHOCK, FIRE HAZARD SERVICE TEST:

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom,
Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before return to user/customer.
Ref.UL Standard NO.1492.

NOTE ON SAFETY:

Symbol ⚠ : Fire or electrical shock hazard. Only original parts should be used to replace any part with symbol ⚠
Any other component substitution(other than original type), may increase risk or fire or electrical shock hazard.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agrées, seuls habilités à réparer votre appareil en panne."

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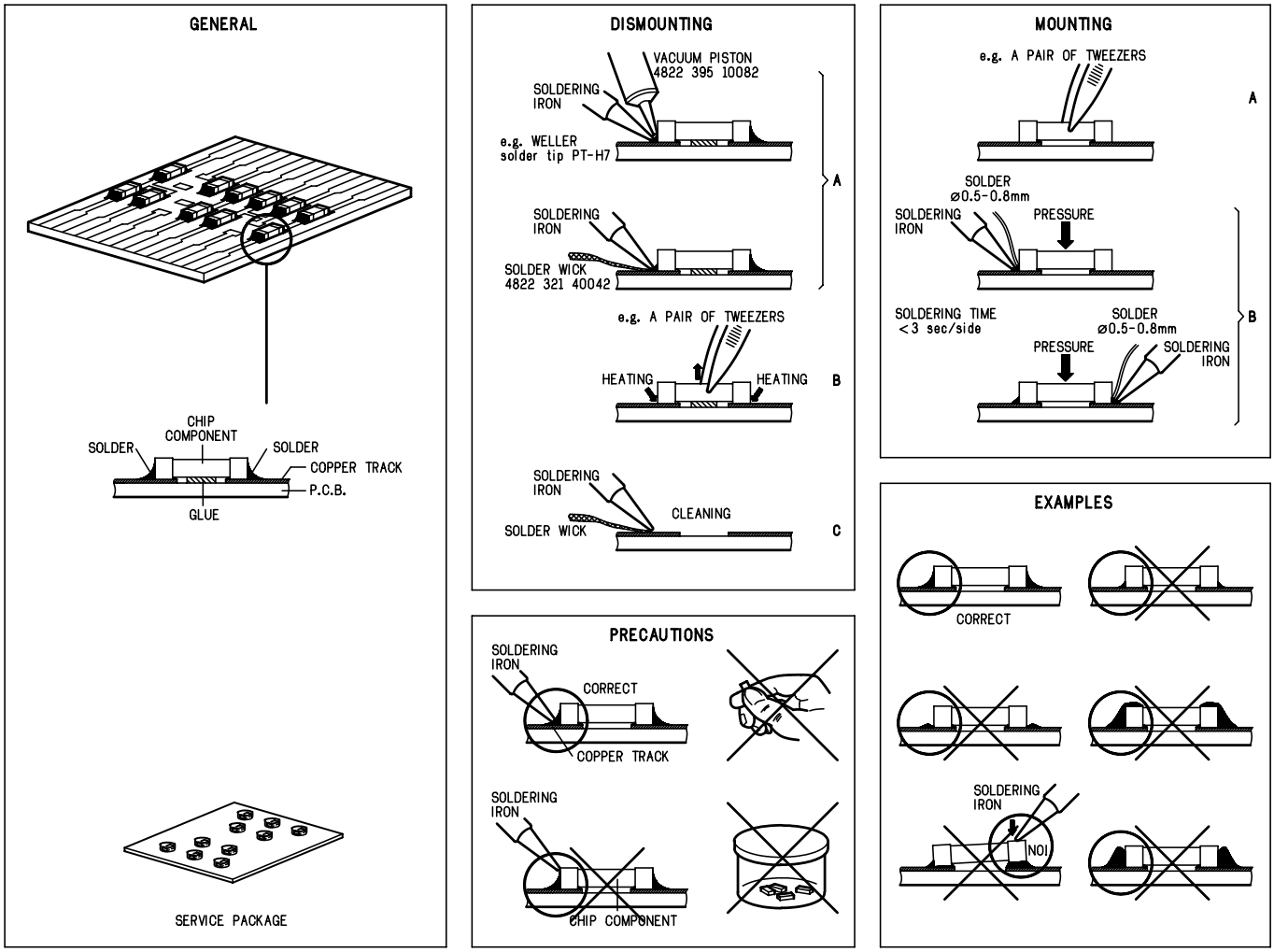
SERVICING HINTS

In the set, chip components have been applied. For disassembly and assembly check the figure below.



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SAFETY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Important

Proper service and repair is important to the safe, reliable operation of all Philips equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

Safety Checks

After the original service problem has been corrected, a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition, which could be unknowingly passed on to your customer. Be sure to check all of the following:

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those units which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barriers, covers, strain reliefs, and other hardware have been installed according to the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints, solder splashes, sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord). Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout, lead length, and dress.
5. No lead or component should touch a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematic diagrams and/or exploded views.

   Replacement parts without the same safety characteristics may create shock, fire, or other hazards.
7. When servicing any unit, always use a separate isolation transformer for the chassis. Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug). Defeating this safety feature may create a potential hazard to the servicer and the user. Extension cords which do not incorporate the polarizing feature should never be used.

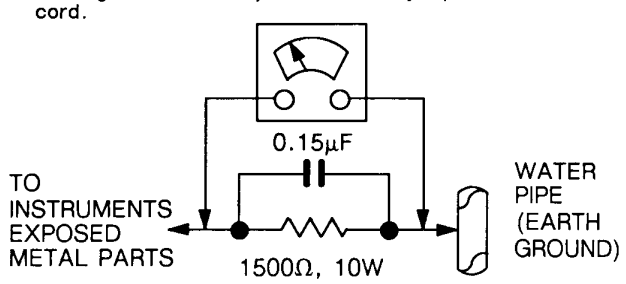
Fire and Shock Hazard (Continued)

9. After reassembly of the unit, always perform an ac leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also, check all metal control shafts (with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit is safe to operate without danger of electrical shock.

* Broken line: ▬ ▪ ▬ ▪ ▬ ▪ ▬ ▪ ▬ ▪

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled unit directly into the ac outlet.
2. Connect a 1.5k, 10W resistor paralleled by a 0.15uF. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms/volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed. (Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Parts Replacement

1. Many electrical and mechanical parts in Philips equipment have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.
2. All ICs and many other semiconductor parts are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce the life of the part drastically.

LASER NOTE:

DANGER - Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION - The use of optical instruments with this product will increase eye hazard.

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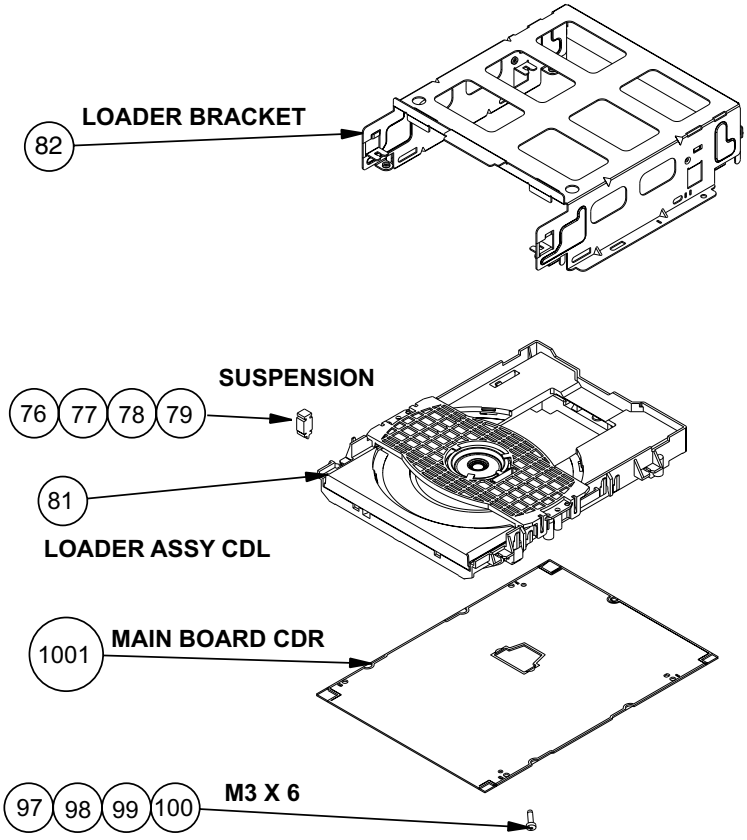
3. Instructions for use

See service manual of concerned modelnumber in which the instructions for use has been inserted. This chapter has not been filled as this module of CDR Module CDL4009 + Mainboard 4228 is only a part of a complete set.

4. Mechanical instructions

4.1 Loader CDL4009

CDL4009 consists of metal loader bracket item 82 and glued on it an identification sticker (on which the module production number and production code is printed); 4 suspension rubbers items 76, 77, 78 and 79 which carry loader assembly item 81; and on the bottom side the CDR mainboard 1001 is mounted. Notice that mainboard is dependant to the applied set and has to be adjusted to mounted CDM in loader in case of exchange. See next figure, Loader CDL4009



82: LOADER BRACKET	3104 121 23900
81: LOADER ASSY CDL	9305 043 20900
76: SUSPENSION	3104 144 05730

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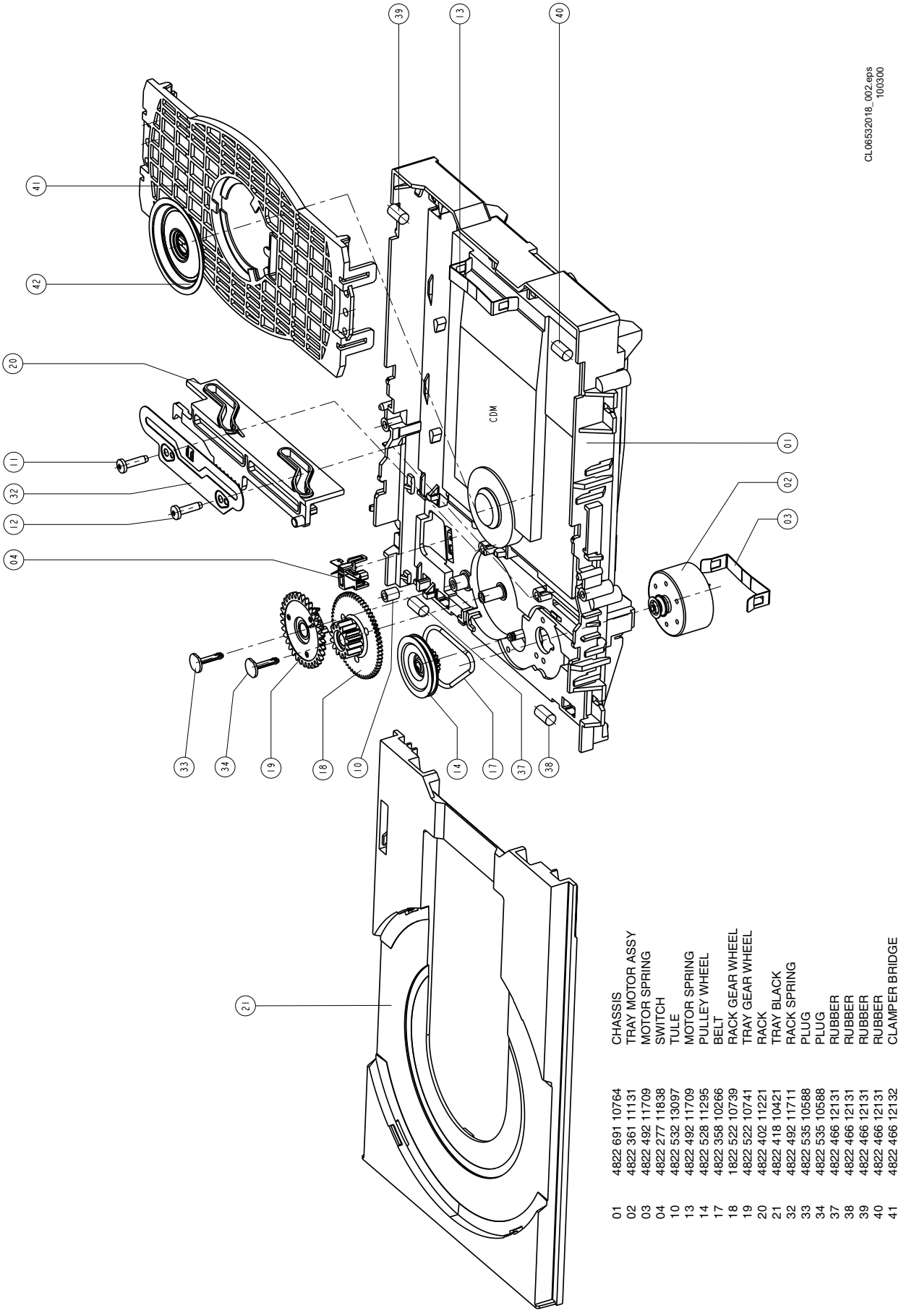
Figure 4-1

To demount loader module CDL4009:

1. Mainboard item 1001. Beware of connections to CDM. Optical pick-up unit has to be ESD protected!
2. Loosen suspensions 76, 77, 78 and 79 from metal loader bracket 81
3. Take out Loader assy CDL

4.2 Exploded view CDL3800



01	4822 691 10764	CHASSIS
02	4822 361 11131	TRAY MOTOR ASSY
03	4822 492 11709	MOTOR SPRING
04	4822 277 11838	SWITCH
10	4822 532 13097	TULE
13	4822 492 11709	MOTOR SPRING
14	4822 528 11295	PULLEY WHEEL
17	4822 358 10266	BELT
18	1822 522 10739	RACK GEAR WHEEL
19	4822 522 10741	TRAY GEAR WHEEL
20	4822 402 11221	RACK
21	4822 418 10421	TRAY BLACK
32	4822 492 11711	RACK SPRING
33	4822 535 10588	PLUG
34	4822 535 10588	PLUG
37	4822 466 12131	RUBBER
38	4822 466 12131	RUBBER
39	4822 466 12131	RUBBER
40	4822 466 12131	RUBBER
41	4822 466 12132	CLAMPER BRIDGE
42	4822 466 12133	CLAMPER

Figure 4-2

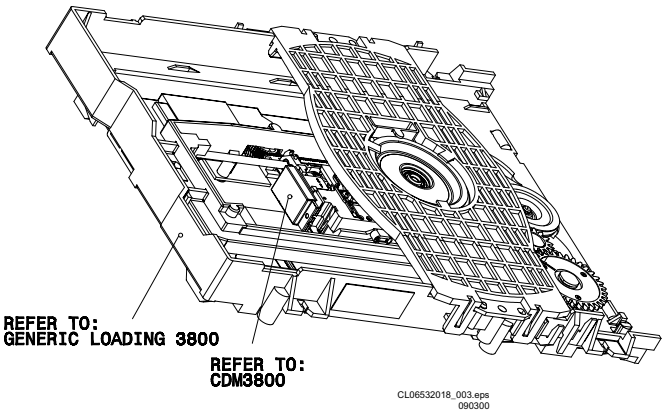


Figure 4-3

4.3 DEMOUNTING LOADER CDL3800

Remove the following items starting with:
(For the item numbers refer to the Exploded Views CDL3800, figure 4.2)

4.3.1 Release and remove tray

Push to open the tray on the rack (item 20)

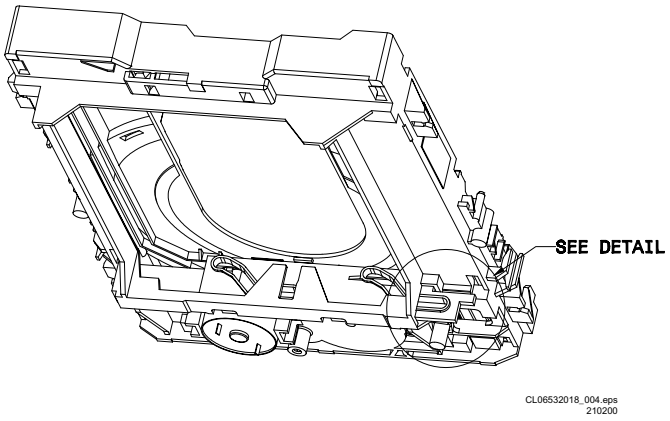


Figure 4-4

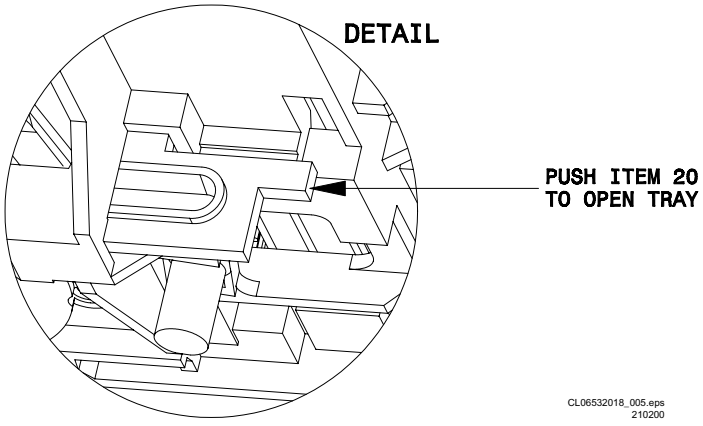


Figure 4-5

Tray
Pull out the tray (item 21) until it stucks. Press the lock at the left side of the tray upwards. Pull out the tray.

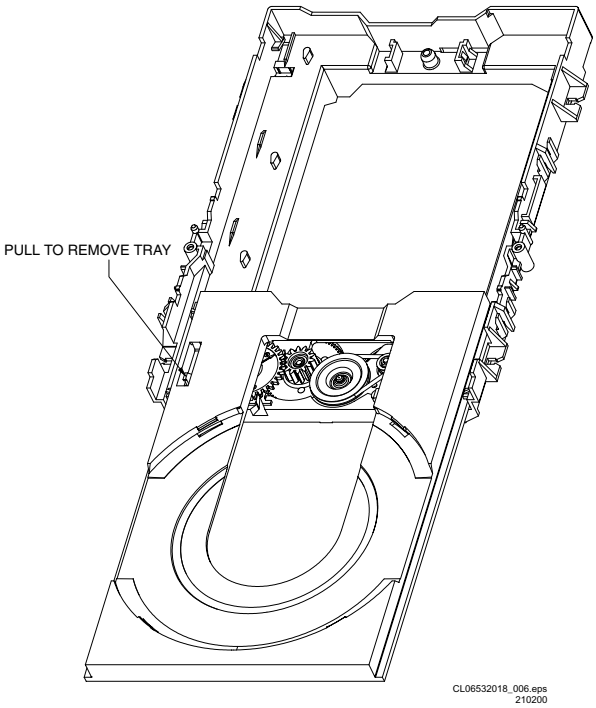


Figure 4-6

Tray motor assey
Remove the tray motor belt (item 17).
Loosen the motorspring (item 3) with a pair of tweezers or a screwdriver via the rectangular hole at the right side of the tray motor.

Clamper bridge
Bend the locks-profiles on both sides of the clamper bridge (item 41) carefully to the outside and lift up the clamper bridge.

CDM
Place the loader upside down and remove the motorspring (item 13) with a pair of tweezers or a screwdriver, but hold the CDM so it can't fall down.

Rack
First remove the rack spring (item 32) by unscrewing items 11 and 12.

Clamper

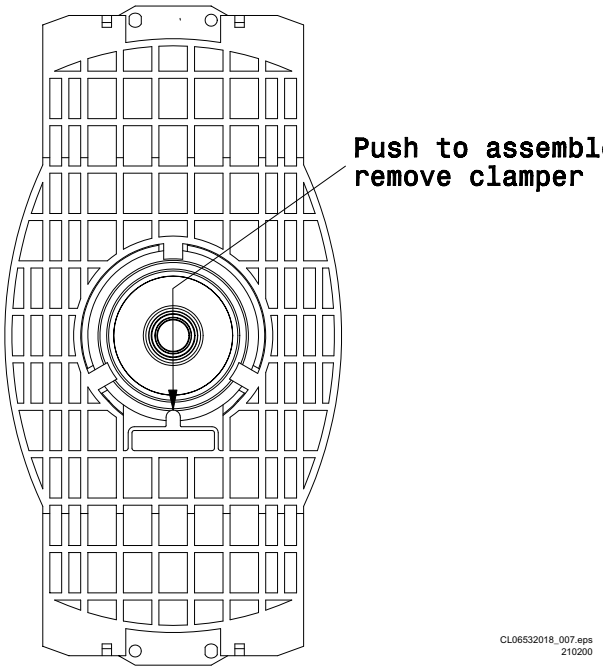


Figure 4-7

4.4 Exploded view CDM3800

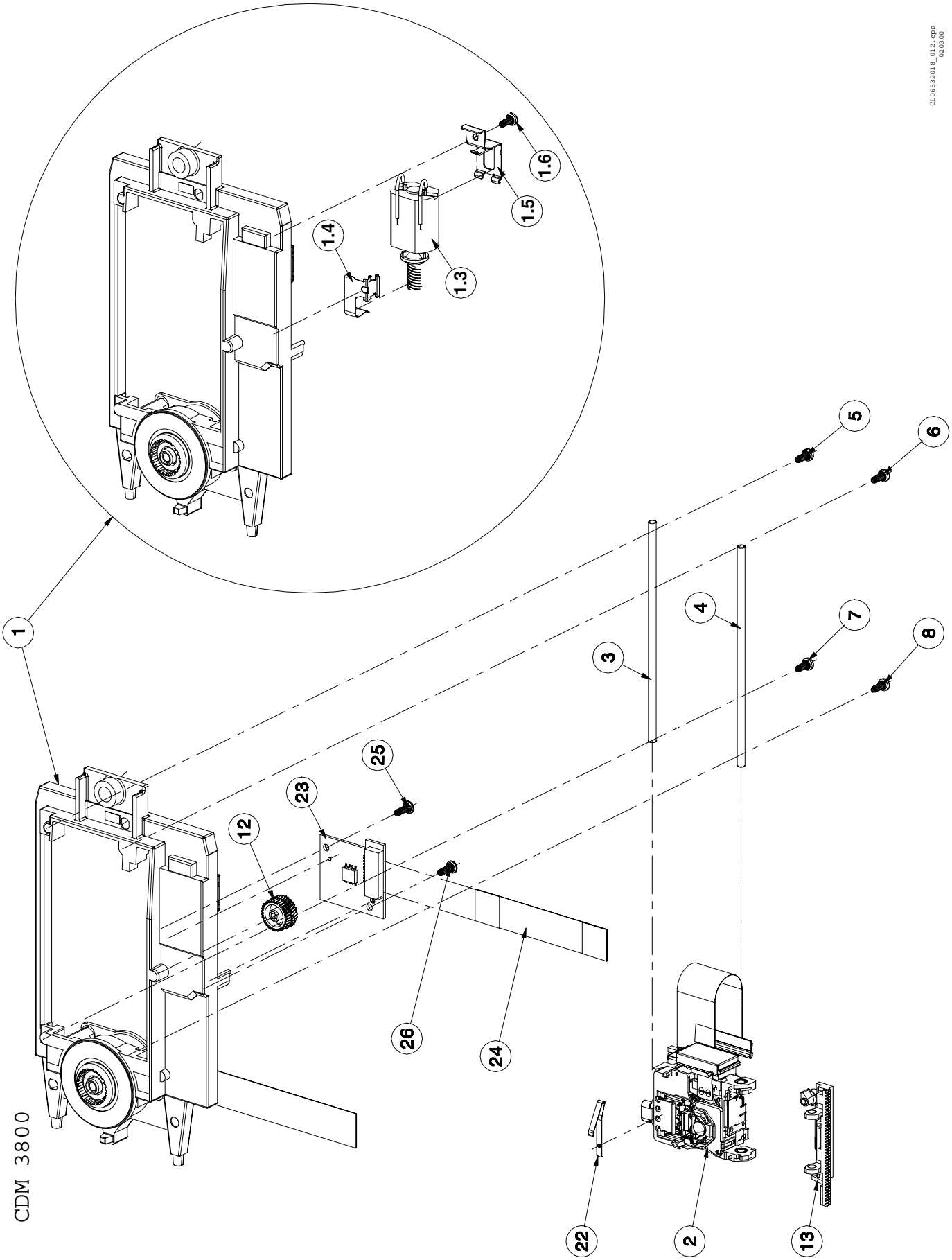


Figure 4-8

3104 147 01580 CDM3800 COMPLETE

1: 4822 691 10765 MOUNTING PLATE ASSY
1.3: 4822 361 11132 SLEDGE MOTOR ASSY
2: 3104 147 12890 OPU-24.24
3: 4822 535 10591 THIRD BEARING AXLE
4: 4822 535 10591 AXLE
12: 4822 528 11297 COMBI WHEEL
13: 4822 522 10742 GEAR RACK ASSY
22: 3104 141 21830 THIRD BEARING SPRING

2100: 4822 126 13196 100nF 10% 25V
3100: ∆4822 051 20101 100Ω 5% 0,1W
5101: 4822 130 11531 SENSOR LT125A

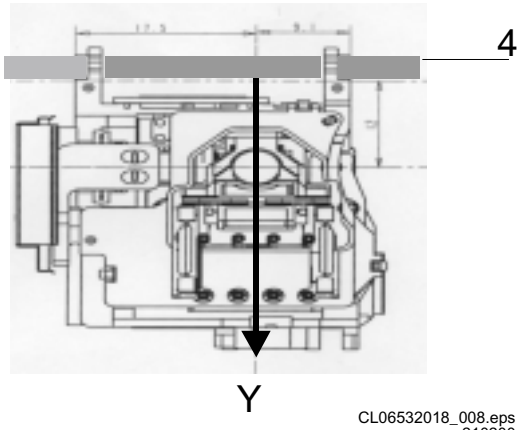


Figure 4-9

4.5 Cleaning objective lens

4.5.1 CLEANING PRESCRIPTION OBJECTIVE LENS

- Cleaning fluid

The lens cleaner codenumber reads 4822 389 10026

- Procedure
  - Take a clean cotton wool tipped stick and put Lens-cleaner on the wool.
  - Wipe the lens very softly with the wet wool end of the stick by moving it forwards and backwards in the Y-direction. (see drawing)
  - Take a dry cotton wool tipped stick and remove the Lens-cleaner from the lens by moving it very softly back and forth in the Y-direction (see drawing)
  - During cleaning, take the necessary precautions in order to prevent damage to the*Actuator (hinges, lens, litze-wires) or OPU (ESD, ...) Do not remove axle (item 4, see drawing) from OPU, because the fixing screws of axle are deforming it at it's end. On their turn these deformings are damaging the hinges of the OPU when loosening the axle.
- Application

This cleaning procedure is only applicable for the flat side (upside) of the lens.
Never try to clean the round side (underside) of the lens (replica-side).
With this cleaning procedure, fingerprints and dust can easily be removed with very
soft and gently movements of the cotton wool tipped stick.

- Limitation

This cleaning procedure is only applicable in cases of malfunctions of the product,
due to lens-problems. It's not ment to be applied on 100% of the actuators, OPU's.
After cleaning, the product must be re-checked on it's functionality.

4.6 Lubricating

4.6.1 LUBRICATING INSTRUCTIONS FOR GENERIC LOADING CDL3800

USE TRIBOL GREASE (1322 523 78101)
Be careful when lubricating the parts.
For parts and points to apply grease, refer to the drawing figure 4-10.
Avoid excess grease.
B. The bearing of the gearwheel. Grease on upper part of cylindrical surface.º
C. Guiding and 2 guiding pins of the rack on the chassis.º
D. The guiding of the rackspring.*
E. The 2 guiding.profiles of the rack*
F. 10 guiding surface of the chassis on the tray.*
G. The guiding pin on the rack.*
H. On top (in the middle) of the 4 rubbers.*
I. Guiding on the chassis of the tray. Grease around the 5 guiding pins.*
J. The guiding ribs of the chassis for guiding the CDM-nose.*
º=Lubricated with dosing apparatus.
*=Lubricated with a brush.

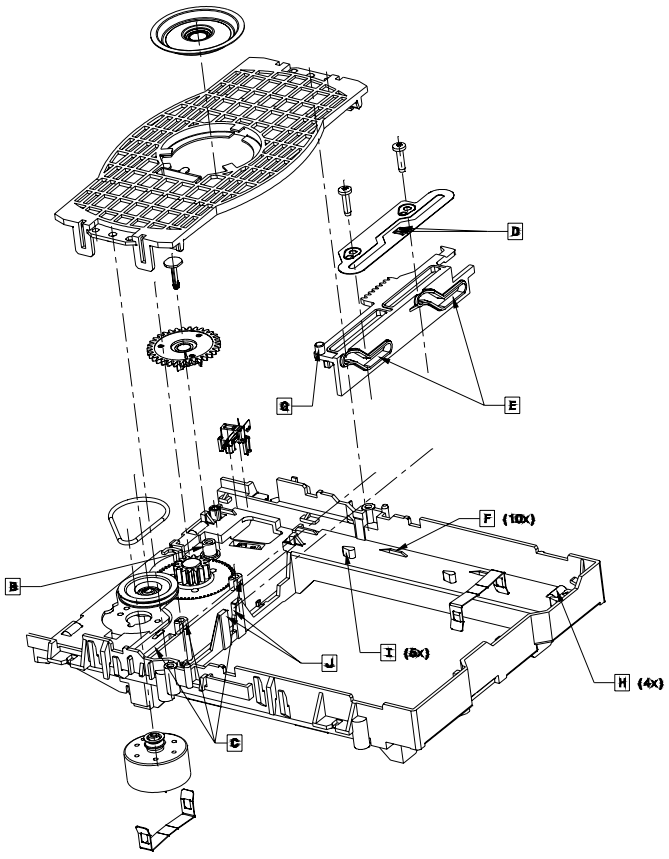


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Figure 4-10

4.6.2 Lubricating instructions for CDM3800

USE TRIBOL GREASE (1322 523 78101)
The third bearing axle (item 3, 4822 535 10591) on the upperside of the axle 2x
The third bearing axle on the bottomside of the axle 2x
The OPU bearing with Mobil Oil SHC 629 (see next paragraph)
The top of the worm
The pressed in axle on the top
The gear rack assy (item 13, 4822 522 10742) on the teeth2x
Between worm and combiwheel (item 12, 4822 528 11297)2x

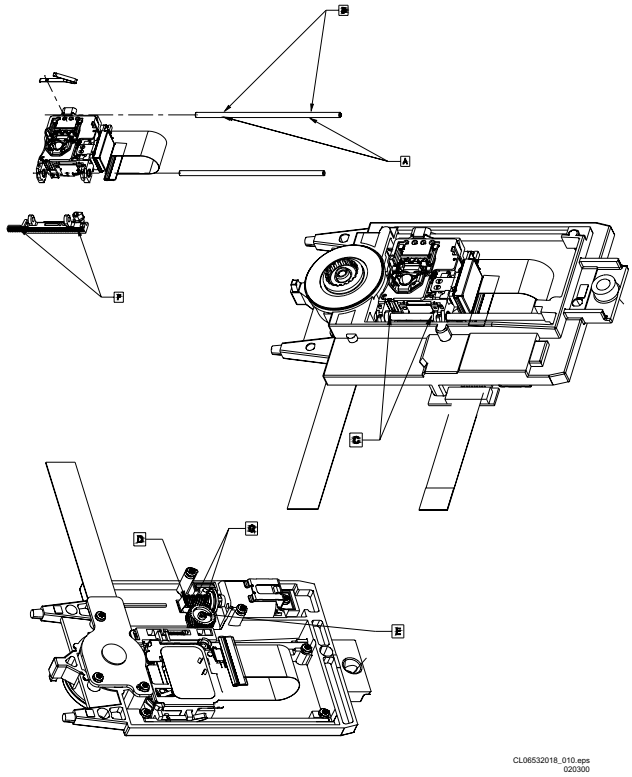

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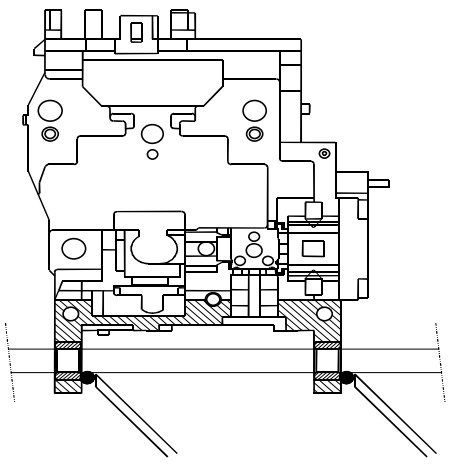
Figure 4-11

Oiling the centrifuged bearings
USE MOBIL OIL SHC 629 (3104 129 52260)
Use dose apparatus
Place the needle against the bearing and axle.
Dose one (1) drop of oil there where the bearing touches the axle (see drawing figure 4-12)
Repeat this handling for the second bearing
Move the OPU for a few times up and down.
REMARKS:
Do not use the oil on the axle alone. Always place the oil drop against the bearing.
No oil on top of the OPU.



2x 1 DROP OF OIL

CL06532018_011.eps
020300

Figure 4-12

5. Service modes, repair tips and faultfinding trees

5.1 Service modes

In this paragraph the internal selfdiagnostics without opening the set and use of other tools is described.

Notice: Module is mounted in a set

5.1.1 Dealer mode

The purpose of the dealer mode is to prevent people taking out the CD inside the player at exhibitions, showrooms etc.. This mode disables the open/close function of the player.
The dealer mode can be switched on and off pressing keys [OPEN/CLOSE] and [STOP] of the CDR player simultaneously while switching on the unit. The dealer mode is stored in the flash memory and can only be changed by executing the above actions.

5.1.2 Dealer diagnostics

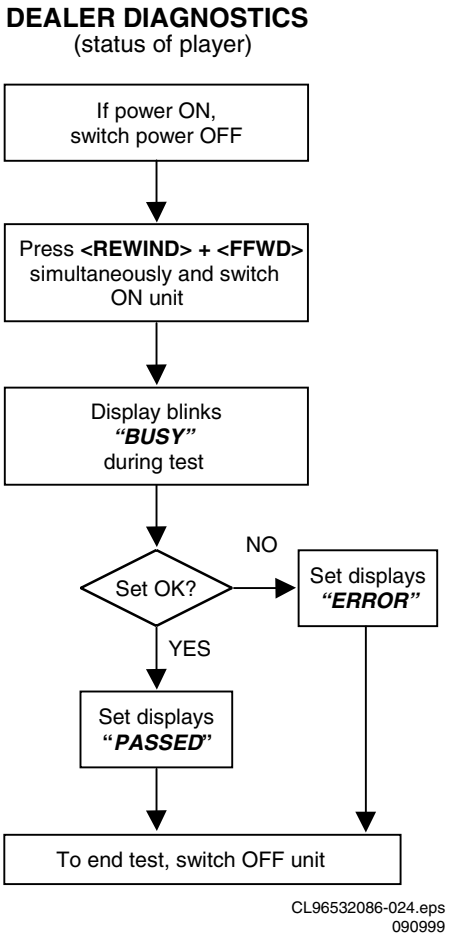


Figure 5-1

Description
The intention of the dealer diagnostics is to give an indication of the CDR player status. An inexperienced, even non-technical dealer will/can perform the test. Tests are executed automatically without need for external tools or disassembly of the unit. This test checks the CDR main board using the same tests as the electrical service diagnostics program. Only the result of the test, "PASSED" or "ERROR", will be shown on the display. Pressing keys [F FWD] and [REWIND] simultaneously while switching on the unit, starts the test. Switching off the unit ends the test.

Requirements to perform the test
- Working keyboard to start up the test.
- Working local display to check the output messages.

5.1.3 Electrical service diagnostics

ELECTRICAL SERVICE DIAGNOSTICS

(software versions, test for defective components)

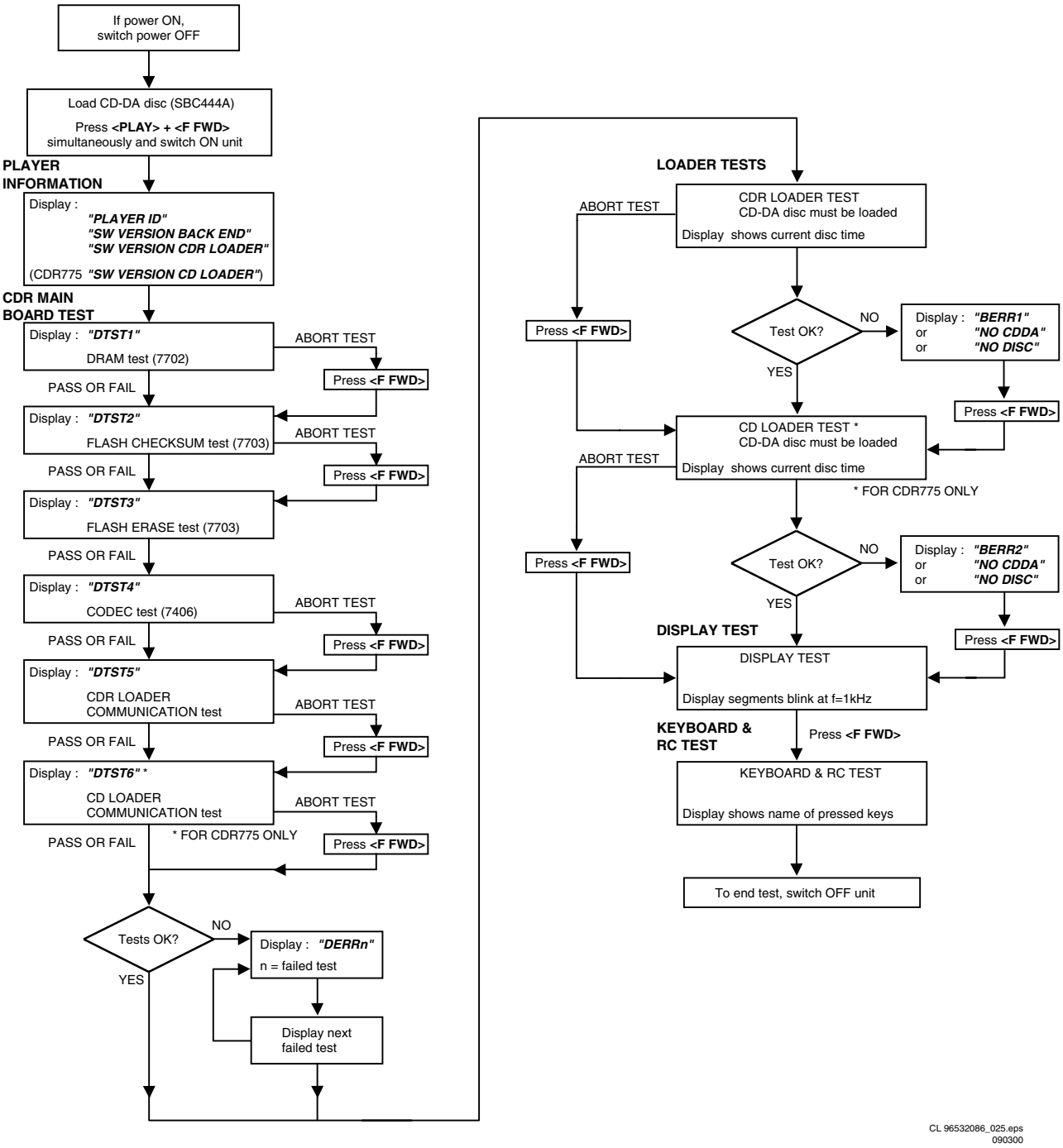

If power ON, switch power OFF
Load CD-DA disc (SBC444A)
Press <PLAY> + <F FWD> simultaneously and switch ON unit
PLAYER INFORMATION
Display : "PLAYER ID" "SW VERSION BACK END" "SW VERSION CDR LOADER"
(CDR775 "SW VERSION CD LOADER")
CDR MAIN BOARD TEST
Display : "DTST1" DRAM test (7702)
ABORT TEST
Press <F FWD>
PASS OR FAIL
Display : "DTST2" FLASH CHECKSUM test (7703)
Display : "DTST3" FLASH ERASE test (7703)
Display : "DTST4" CODEC test (7406)
Display : "DTST5" CDR LOADER COMMUNICATION test
Display : "DTST6" * CD LOADER COMMUNICATION test
* FOR CDR775 ONLY
Tests OK?
NO
YES
Display : "DERRn" n = failed test
Display next failed test
LOADER TESTS
CDR LOADER TEST CD-DA disc must be loaded
Display shows current disc time
Test OK?
Display : "BERR1" or "NO CDDA" or "NO DISC"
CD LOADER TEST * CD-DA disc must be loaded
Display : "BERR2" or "NO CDDA" or "NO DISC"
DISPLAY TEST
Display segments blink at f=1kHz
KEYBOARD & RC TEST
Press <F FWD>
KEYBOARD & RC TEST
Display shows name of pressed keys
To end test, switch OFF unit
CL 96532086_025.eps
090300

Figure 5-2

Description
The intention of the electrical service diagnostics is to show the software versions present in the player and to direct the dealer towards defective internal units. The units are : the CDR main board, the CDR loader, the CD loader in case of a CDR775 and the keyboard/display board. A sequence of tests is executed automatically. Some of the tests can be aborted or skipped without the result being taken into account. External tools or disassembly of the unit is not necessary to get the diagnostic information. Pressing keys [PLAY/PAUSE] and [F FWD] simultaneously while switching on the unit, starts the test. Switching off the unit ends the test.

Requirements to perform the test
- Working keyboard to start up the test.
- Working local display to check the output messages.
- A CD-DA disc with a minimum of 3 tracks in all trays to perform the disc test.

Description of the tests

Player information
In this part of the test the following important information can be checked without removing the cover :
- Recorder ID.
- SW-version back end of player.
- SW-version CDR loader.
- SW-version CD loader (only for CDR775).

CDR main board test
[F FWD] key. The message “DERRn” will be displayed with n indicating the faulty test number.
If one of the tests is aborted with the [F FWD] key, no error message will be displayed for this test. The flash data erase test (“DTST3”) can not be aborted !
The CDR main board test consists out of :

DRAM test
Display : “DTST1”. The DRAM used for buffer management is tested by writing, reading and verifying test patterns.

Flash checksum test
Display : “DTST2”. This test checks the checksum of the player’s SW stored in the flash.

Flash data erase
Display : “DTST3”. During this test, all temporary information (CDtxt) in the flash is erased.

CODEC (ADC/DAC) test
Display : “DTST4”. This test checks the CODEC IC by writing, reading and verifying test patterns. The test is not applicable for CDR950.

CDR communication test
Display : “DTST5”. The communication between the host processor (DASP) and the CDR loader via the DSA-R-bus is tested.

CD communication test
Display : “DTST6”). The communication between the host processor (DASP) and the CD loader is tested. The test is only applicable for CDR775.

Loader tests
These tests determine if the CDR loader and the CD loader in case of a CDR775 work correctly. A CD-DA disc with a minimum of 3 tracks needs to be inserted in both loaders. A disc test is executed to check focus control, disc motor control, radial control and jump grooves control. The disc test is performed by audio play-back of 5 seconds at the beginning, middle and end of the disc.

CDR loader test
During the test, the current disc time is shown. In case of an error the message “BERR1” will be displayed and the [F FWD] key must be pressed to continue with the following test. Pressing the [F FWD] key also aborts this test.

CD loader test
For CDR775 only. During the test, the current disc time is shown. In case of an error the message “BERR2” will be displayed and the [F FWD] key must be pressed to continue with the following test. Pressing the [F FWD] key also aborts this test.

Display test
All segments will blink at a frequency of 1 Hz. Pressing the [F FWD] key will start the next test because the user has to check for himself if all segments work properly.

Keyboard and remote control tests
The test will give the user the ability to test every key without executing the function assigned to it. Therefore, the user needs to press every key on the keyboard and the remote control. The display will show the name of the key being pressed. Pressing more than one key at once will give an unpredictable result except for the service combinations : [PLAY/PAUSE] + [STOP], [PLAY/PAUSE] + [F FWD], [F FWD] + [REWIND], [ERASE] + [RECORD], [PLAY/PAUSE] + [RECORD], [OPEN/CLOSE] + [PROGRAM].

5.1.4 Mechanical service diagnostics

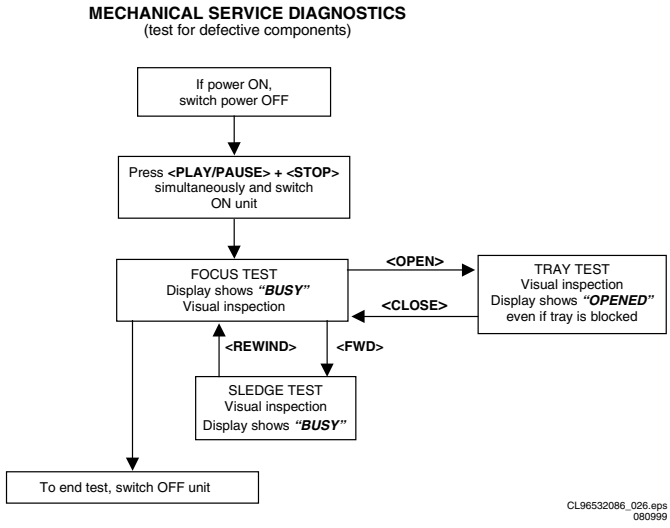


Figure 5-3

Description
No external tools are required to perform this test. The cover needs to be removed because the user has to check the movements of the tray, focus and sledge visually. Pressing keys [PLAY/PAUSE] and [STOP] simultaneously while switching on the unit, starts the test. Switching off the unit ends the test. In case of a CDR775, one can check the CD loader mechanics in the same way by pressing the above key combination on the CD player keys.

Requirements to perform the test
- Working keyboard to cycle through the tests and to start up the test.
- Working local display to check the output messages.

Description of the tests

Focus control test
The focussing lens is continuously moving up and down. The display reads “BUSY”.

Sledge control test
After pressing [F FWD] the sledge continuously moves up and down. Pressing [REWIND] stops the sledge at the position it is in and the focus control test resumes. The display reads “BUSY”.

Tray control test
This test starts from within the focus control test routine. Pressing [OPEN/CLOSE] moves the tray in or out. In the tray open position one can initiate focus and sledge tests by pressing [F FWD]. One has to stop these tests pressing [REWIND] before it is possible to close the tray again. Depending on the action the display reads “OPEN”, “OPENED”, “CLOSE” or “BUSY”.

5.1.5 DC-erase service mode

DC ERASE SERVICE MODE
(erasement of complete CD-RW)

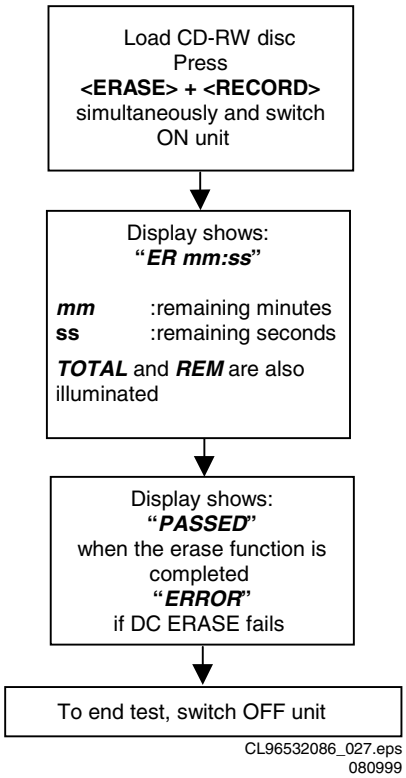


Figure 5-4

Description
This test is initiated by pressing [ERASE] and [RECORD] simultaneously while switching on the unit. The player will erase a complete CD-RW disc (including PMA and ATIP lead out area) at speed N=2. The display shows the countdown of the remaining time required for the operation to complete. The format is “ER mm:ss”, where “mm” are the remaining minutes and “ss” the remaining seconds. After completion the message “PASSED” is shown, and the player has to be switched off and on again to start up in normal operating mode. Switching off the unit before completion of the test, leaves the disc in an unpredictable state. In such case only a complete DC-erase procedure can recover the CD-RW disc.

Requirements to perform the test
- Functional CDR player.
- A CD-RW audio disc must be present in the tray.

5.1.6 Burn in mode

Description:
The Burn In mode is an endless cycle of:
- DC-Erase to erase the CDRW disc with maximum laser power.
- Recording a CDRW disc
- Finalising at double speed

The Burn In mode is used to test intermittent faults of the loader.

Requirements to perform the test:
- Working Local Keyboard: needed to start up the test.
- Working Local Display: all output messages must be displayed on the local display.
- Analog source connected to the CDR99 player
- CDRW disc in tray

Burn in sequence
– Initialisation
The ‘Burn In’ mode is initiated by pressing the PAUSE> and key on the local keyboard at the same time, and then switching the POWER switch on.
– Continuous loop
The following picture shows the burn in sequence.

Burn in sequence

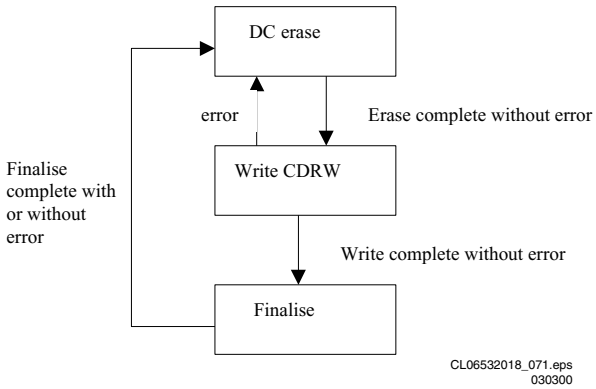


Figure 5-5

Continuously do DC erase, record complete CDRW and then finalise until the player is powered off.
When an error is detected during writing, the DC erase procedure is called again., the disc will be DC erased and the cycle starts again.
During the test the display shows the number of hours for which the test is running and the number of errors detected during the test. The display looks as follows : “HH BI RE FE”

HH	:	number of hours on digits 1 and 2
“BI”	:	burn in mode, digits 3 and 4
RE	:	number of errors detected during DC erase and write CDRW modes on digits 7 and 8

FE : number of errors detected during finalise modes on digits 10 and 11

If started up with a disc other than a CDRW disc the display shows : ”WRONG DISC”,
if no disc is inserted display : “NO DISC”.

– End of test

To exit the Burn In mode, power off the player.

5.2 Faultfinding Trees

The faultfinding trees and repair suggestions like the power supply voltages for proper functioning of the mainboard are indicated here.

5.2.1 CDR-Module

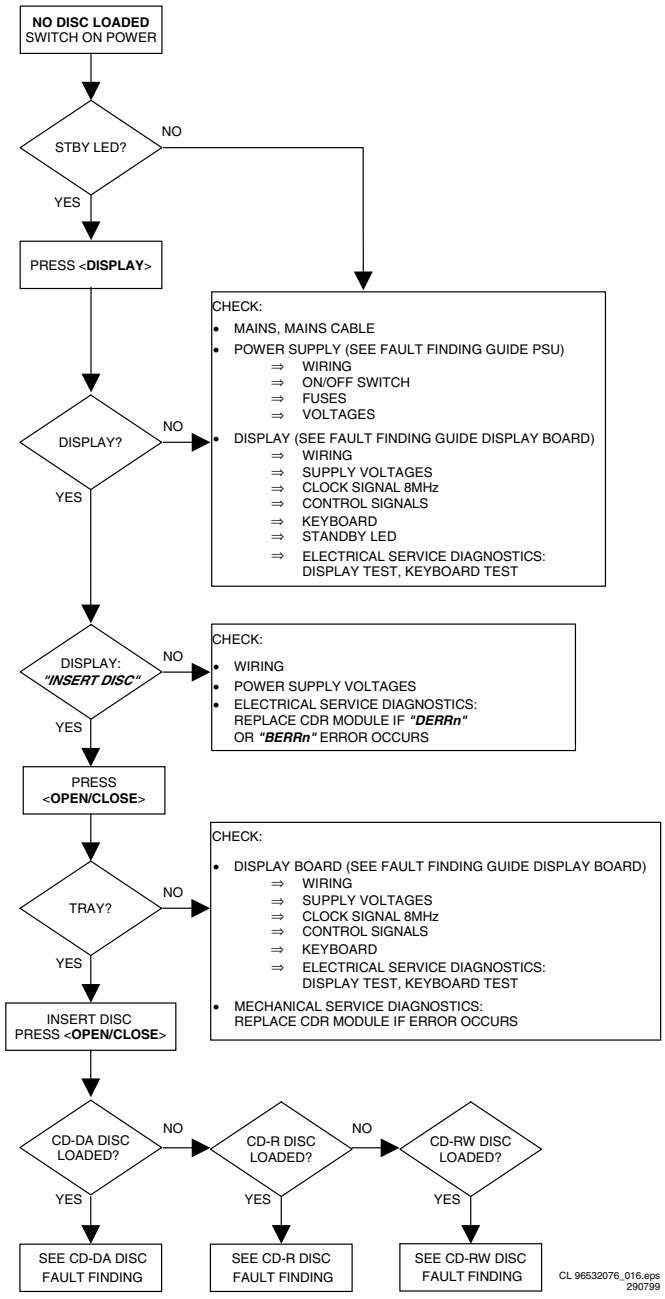


Figure 5-6

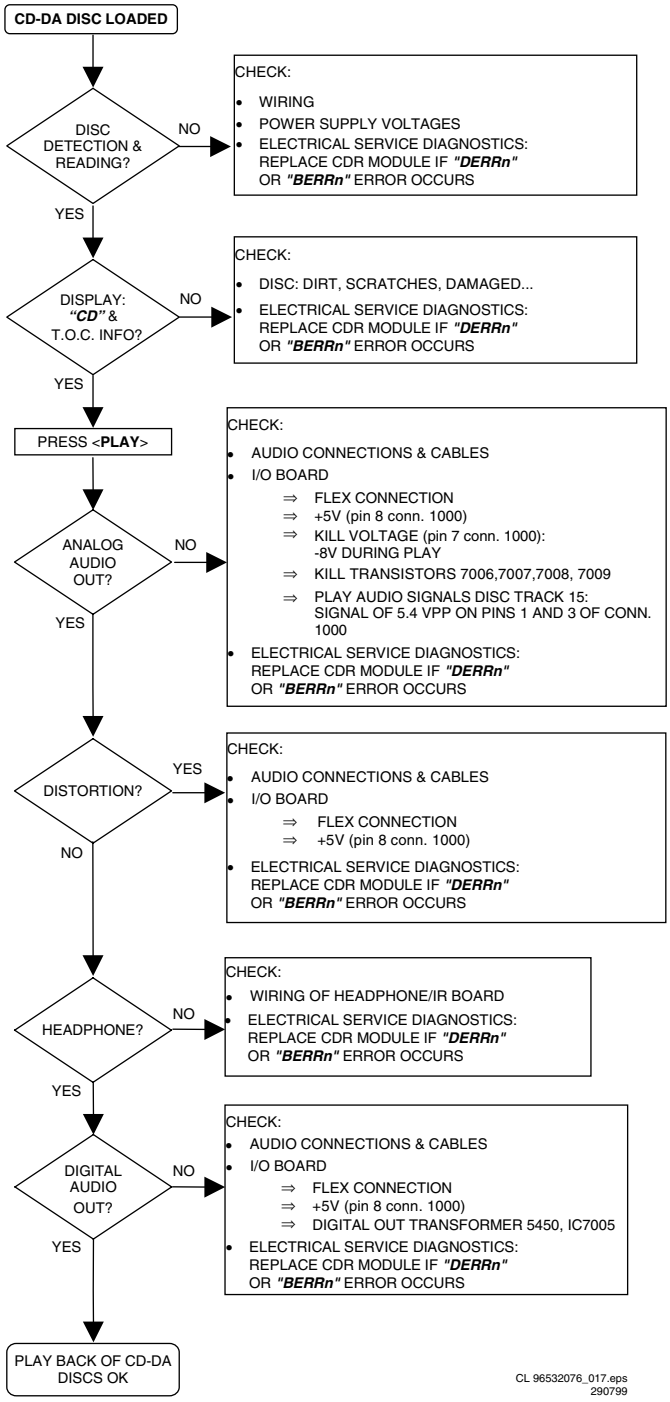

CD-DA DISC LOADED
DISC DETECTION & READING?
NO
YES
CHECK:
• WIRING
• POWER SUPPLY VOLTAGES
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
DISPLAY: "CD" & T.O.C. INFO?
NO
YES
CHECK:
• DISC: DIRT, SCRATCHES, DAMAGED...
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
PRESS <PLAY>
ANALOG AUDIO OUT?
NO
YES
CHECK:
• AUDIO CONNECTIONS & CABLES
• I/O BOARD
⇒ FLEX CONNECTION
⇒ +5V (pin 8 conn. 1000)
⇒ KILL VOLTAGE (pin 7 conn. 1000): -8V DURING PLAY
⇒ KILL TRANSISTORS 7006,7007,7008, 7009
⇒ PLAY AUDIO SIGNALS DISC TRACK 15: SIGNAL OF 5.4 VPP ON PINS 1 AND 3 OF CONN. 1000
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
DISTORTION?
YES
NO
CHECK:
• AUDIO CONNECTIONS & CABLES
• I/O BOARD
⇒ FLEX CONNECTION
⇒ +5V (pin 8 conn. 1000)
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
HEADPHONE?
NO
YES
CHECK:
• WIRING OF HEADPHONE/IR BOARD
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
DIGITAL AUDIO OUT?
NO
YES
CHECK:
• AUDIO CONNECTIONS & CABLES
• I/O BOARD
⇒ FLEX CONNECTION
⇒ +5V (pin 8 conn. 1000)
⇒ DIGITAL OUT TRANSFORMER 5450, IC7005
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
PLAY BACK OF CD-DA DISCS OK
CL 96532076_017.eps
290799

Figure 5-7

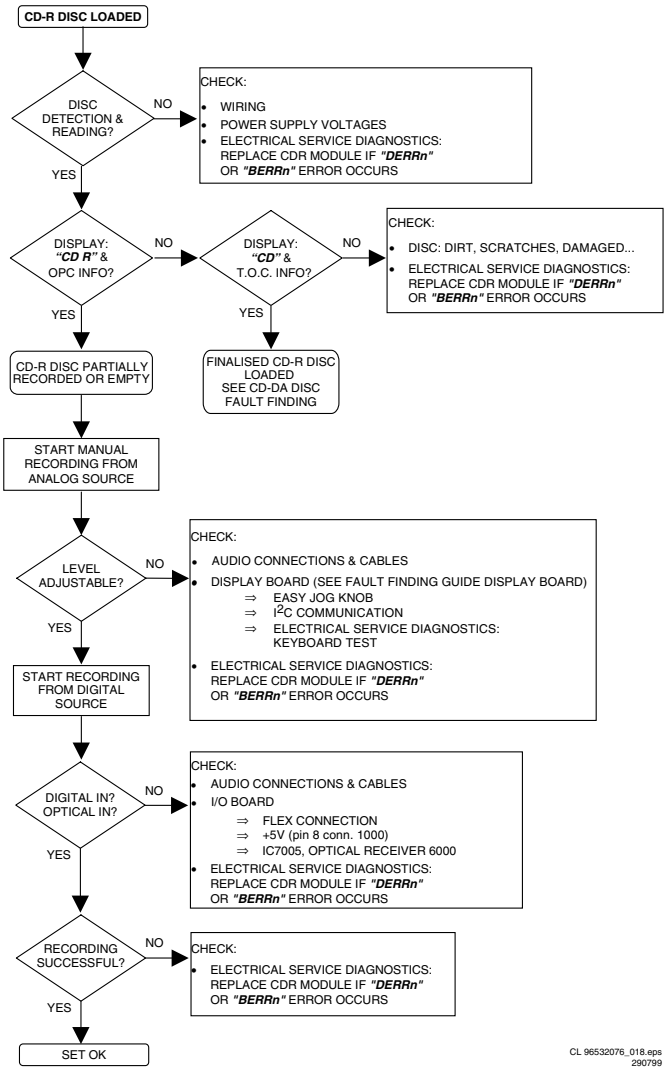

CD-R DISC LOADED
DISC DETECTION & READING?
NO
CHECK:
• WIRING
• POWER SUPPLY VOLTAGES
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
DISPLAY: "CD R" & OPC INFO?
NO
DISPLAY: "CD" & T.O.C. INFO?
NO
CHECK:
• DISC: DIRT, SCRATCHES, DAMAGED...
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
YES
CD-R DISC PARTIALLY RECORDED OR EMPTY
FINALISED CD-R DISC LOADED SEE CD-DA DISC FAULT FINDING
START MANUAL RECORDING FROM ANALOG SOURCE
LEVEL ADJUSTABLE?
NO
CHECK:
• AUDIO CONNECTIONS & CABLES
• DISPLAY BOARD (SEE FAULT FINDING GUIDE DISPLAY BOARD)
⇒ EASY JOG KNOB
⇒ I2C COMMUNICATION
⇒ ELECTRICAL SERVICE DIAGNOSTICS: KEYBOARD TEST
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
START RECORDING FROM DIGITAL SOURCE
DIGITAL IN? OPTICAL IN?
NO
CHECK:
• AUDIO CONNECTIONS & CABLES
• I/O BOARD
⇒ FLEX CONNECTION
⇒ +5V (pin 8 conn. 1000)
⇒ IC7005, OPTICAL RECEIVER 6000
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
RECORDING SUCCESSFUL?
NO
CHECK:
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
SET OK
CL 96532076_018.eps 290799

Figure 5-8

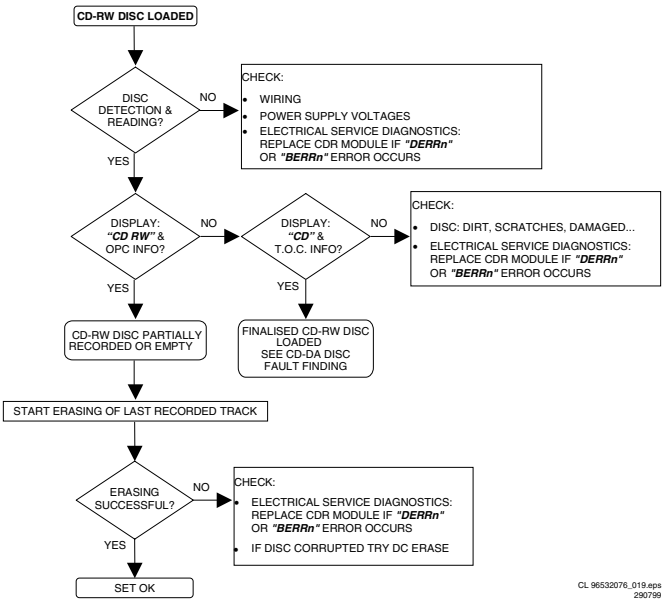

CD-RW DISC LOADED
DISC DETECTION & READING?
NO
CHECK:
• WIRING
• POWER SUPPLY VOLTAGES
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
DISPLAY: "CD RW" & OPC INFO?
NO
DISPLAY: "CD" & T.O.C. INFO?
NO
CHECK:
• DISC: DIRT, SCRATCHES, DAMAGED...
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
YES
YES
CD-RW DISC PARTIALLY RECORDED OR EMPTY
FINALISED CD-RW DISC LOADED SEE CD-DA DISC FAULT FINDING
START ERASING OF LAST RECORDED TRACK
ERASING SUCCESSFUL?
NO
CHECK:
• ELECTRICAL SERVICE DIAGNOSTICS: REPLACE CDR MODULE IF "DERRn" OR "BERRn" ERROR OCCURS
• IF DISC CORRUPTED TRY DC ERASE
YES
SET OK
CL 96532076_019.eps 290799

Figure 5-9

5.2.2 Mainboard

Power supply part on mainboard

- Description.

The most important part of an electrical function is the power supply. Without it will never operate. The power supplies as well analog as digital equipment. For these reasons the power supply is split-up in different sections. One for the digital electronics, one for the servo controls and one for the AUDIO part. The servo controls are the big consuming parts with high peak-currents, also introducing disturbances in the power lines. The audio part needs very “clean” power, because noise and ripples have there reflection in the audio signals, specially in S/N and THD+N. Some of the power supplies are switched off, this to reduce consumption in case of standby.
The different power supplies are delivered to the PCB via connector 1500 This is a 11 pole connector with following voltages on it: +5V, +12V, -8V, VFTD, VDC1 and VDC2.
The last 3 voltages are not used on the main PCB, but are meant for the FTD (Fluorescent Tube Display). They are directly routed to connector 1705.
The other voltages are split up in different functions on the PCB. The following block-diagram gives an indication of that implementation.

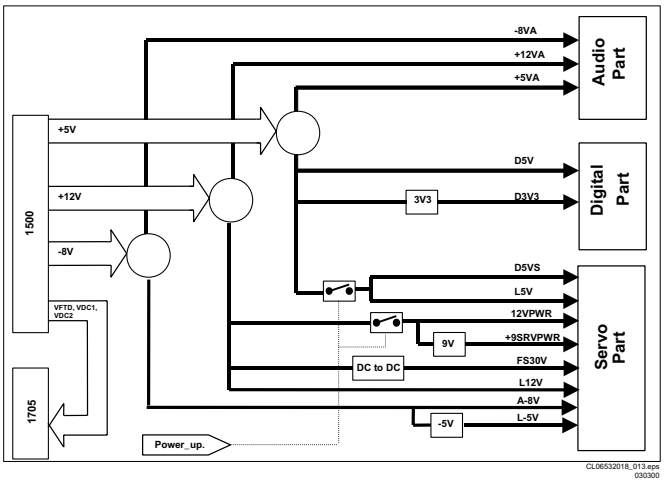


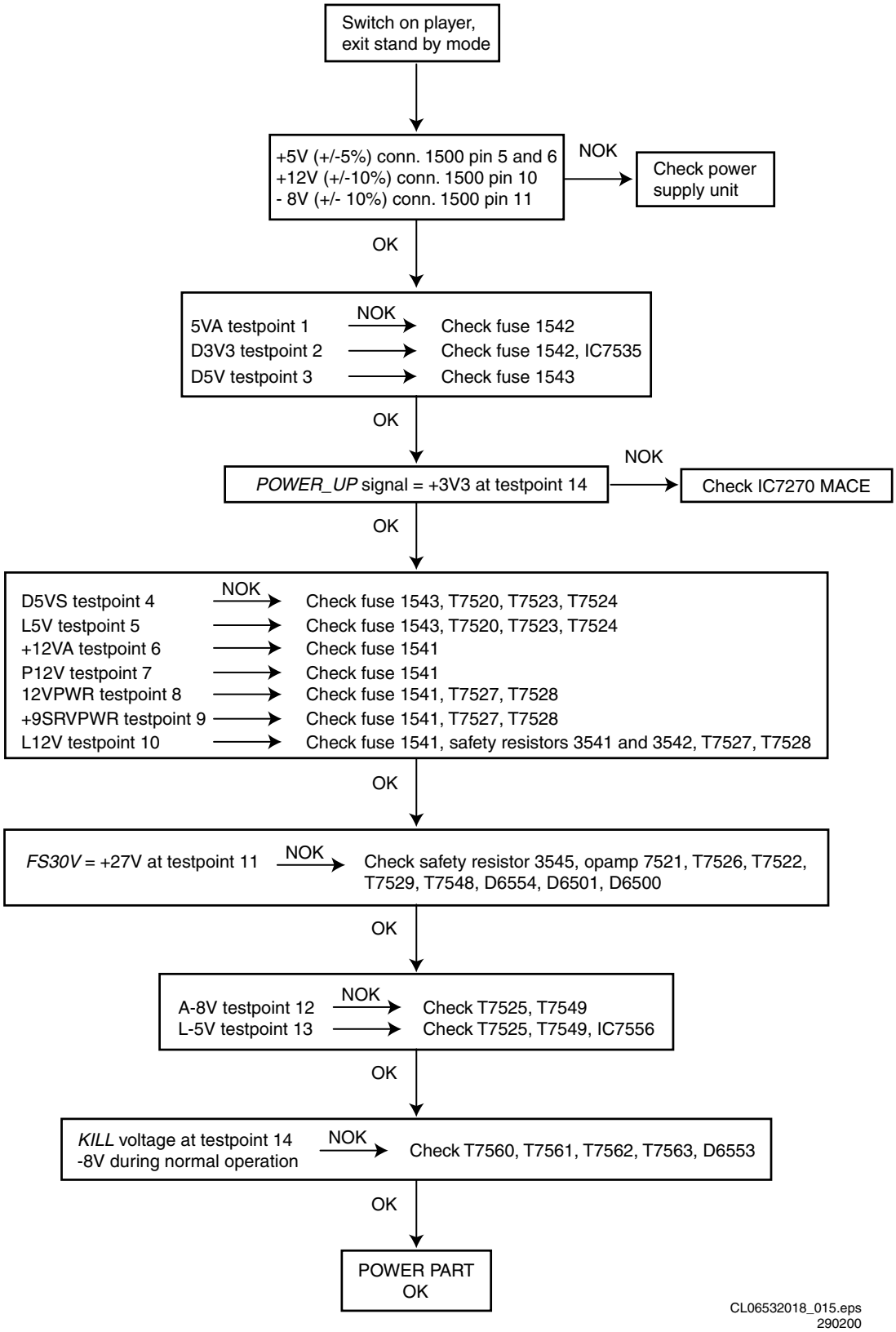
Figure 5-10

- Power supply to main board.

Power supply enters the BOARD via connector 1500. Pinning as follows:
Connector 1500
pin 1: VDC2 : 3V8 (10%
pin 2: VFTD : -38V (5%
pin 3: VDC1 : 3V8 (10%
pin 4: GND : Ground.
pin 5: D5V : +5V (5%
pin 6: D5V : +5V (5%
pin 7: GND : Ground.
pin 8: GND : Ground.
pin 9: GND : Ground.
pin 10: 12V : 12V (10%
pin 11: -8V : -8V (10%

POWER PART CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAM 7 AND CDR MAIN BOARD BOTTOM VIEW : POWER PART TEST POINTS



CL06532018_015.eps
290200

Figure 5-11

Reset & Clock

Master reset.
Since the Mainboard is more or less mix-mode between +3V3 and +5V devices, special treatment for the RESET behavior is wishful. Controlling the RESET only from 1 power supply could lead to collisions between different devices, damaging the internal I/O structure of the devices. To avoid this the +3V3 and the +5V are guarded by a special device. These devices keep the output low as long as the power supply is not stable or is not above the required level. As soon as the power supply is stable it switches the output to “HIGH-Z”. The output is an open collector type. From then onwards the line can be controlled by means of external pull-up resistors. Benefit of the open-collector devices is that several of those devices can be tight together at the outputs. In our case we used a device on the +5V and one on the +3V3. This means that both power supplies need to be stable before the RESET of the Master processor is released.
Resetting several processors in the same structure by means of the power supplies invokes certain risks. The duration of initialization after reset is processor and Code depending. It can lead to hang-up in those cases that communication between the processors is “time” driven. Meaning that only in a certain time frame the establishment of the communication-bus must take place. If not successful the Bus hangs!
To avoid these kinds of problems, only 1 RESET is depending on the power supply, and this is the RESET of the Master controller. The same master controller will then take care of the RESET of the other devices. In the next figure this is explained.

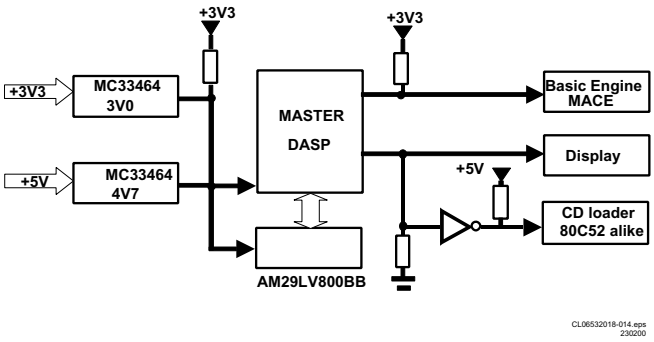


Figure 5-12

For further measurings see next reset and clock flowcharts.

RESET & CLOCK CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 4, 9 AND 10 AND CDR MAIN BOARD BOTTOM VIEW : RESET & CLOCK TESTPOINTS

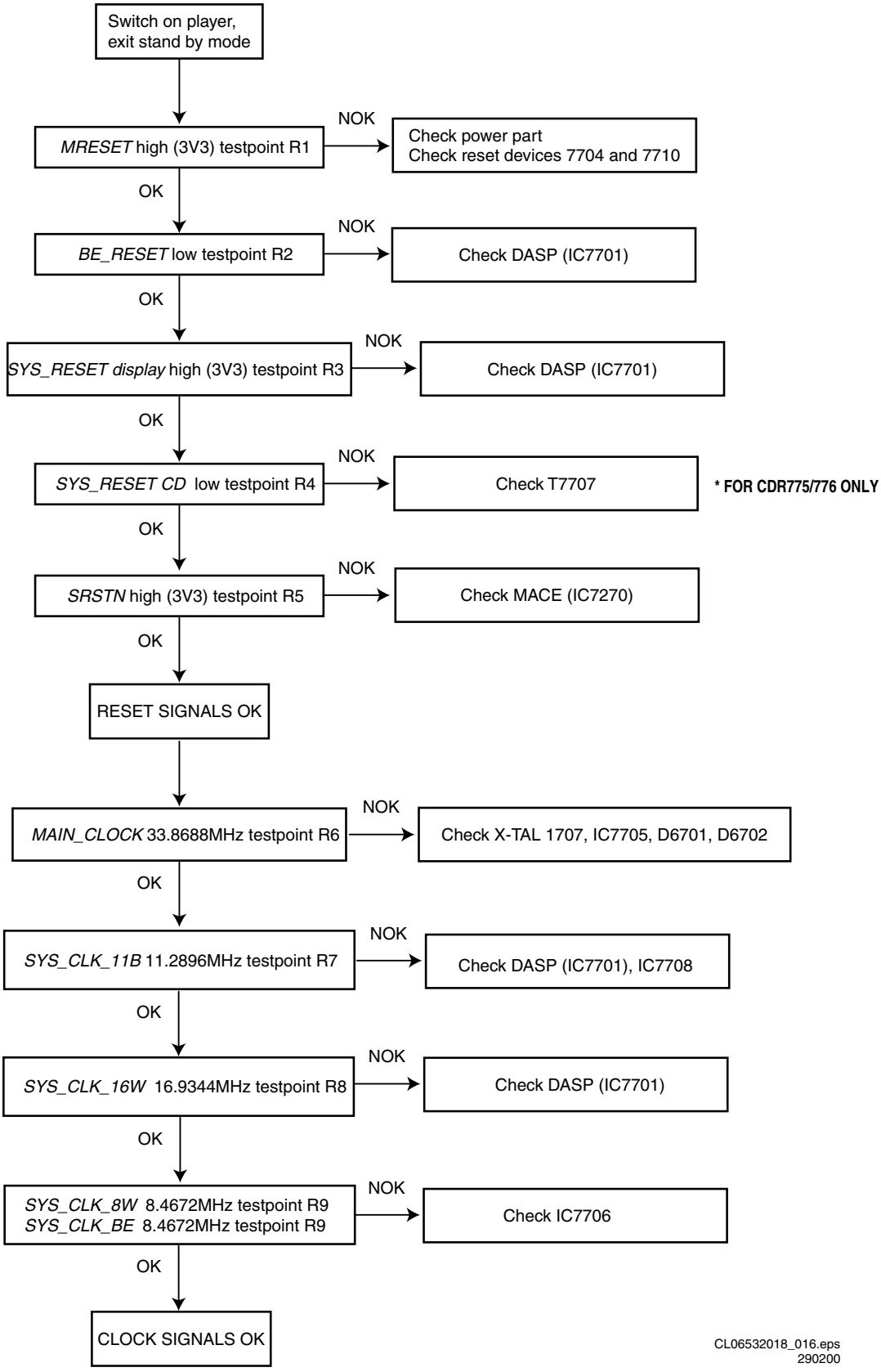


Figure 5-13

The clockgeneration

All microprocessors or digital devices need a clock. The clock is usually made by means of resonators or crystals depending on the speed and the accuracy that is requested. The clock can also differ from device to device so that more then one crystal is needed. The cheapest and "system wise" best way is only 1 crystal. The derived clocks are then Phase related to each other.

On the CDR MAIN 99 the DASP is generating all clock signals. Not only the systemclock for the processor itself, but also for the basic engine processor and even the systemclock for the ADDA part which is directly related to the 44.1kHz. sample frequency. To be able to do this a 33.8688Mhz. crystal with 25ppm accuracy is connected to the internal oscillator of the DASP. Internal the clock signal is multiplied by means of a PLL. This gives the systemclock on which the processor runs internally. This systemclock is then again devided internally to have the systemclock for the ADDA, which is 11.2896Mhz, and the 16,9344Mhz. which divided by 2 gives the systemclock for the BE part. In this way only 1 crystal is required. The same 8.4672MHz. is also routed to the CD-module in case of a CDR775 player.

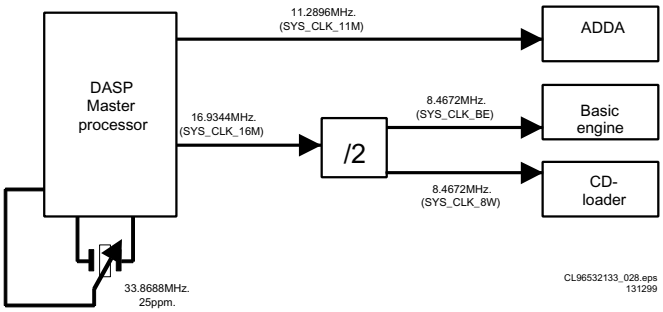


Figure 5-14

PC help on mainboard diagnostics

A couple of the diagnostics are only possible with the help of a PC. The DASP micro controller will contain an interface with the external world; this interface is realised via a serial RS232 connector that is accesible inside the player. It can be accessed from the outside world by means of test pins and connector 1818 and interface board 7104 086 91111.

Via those test pins a terminal emulator can be connected. Then menus will come up that give the opportunity to enter all Audio Engine commands. This includes the commands on Bit Engine Level (transparant). This terminal emulator functionality is part of the embedded software, so no external software is needed. It can also read out the User Profile Logging of Bit Engine. This can show the hours that the loader really was in recording mode.

This diagnostic tool is activated if communication is detected on the RS232 interface during power up. The baud rate for both is 19k2 baud.

Details of the diagnostic tool are given in chapter 5.2.3 of this publication: Menu Driven Diagnostics.

Also in preparation is the interactive COMPAIR tool. Then the PC communicates in an active form with the set and compares the result for making the next decision. With MDD the technician has to take the next active step from his experiences onwards.

5.2.3 Menu Driven Diagnostics

In this paragraph the specification of the software requirements for the Menu Driven Fault Finding Diagnostics is given. It will give a clear and unambiguous description of what the Menu Driven Diagnostics (MDD) do.

NOTICE:THE TESTS, AS PROVIDED BY THE MENU DRIVEN DIAGNOSTICS, ARE NOT SUPPOSED TO BE MIXED RANDOMLY, ESPECIALLY TESTS LIKE 'LASER ON' AND 'FOCUS ON'. IT IS ASSUMED THAT THE PERSON THAT USES THE MDD KNOWS IN WHICH ORDER THESE TESTS CAN BE EXECUTED.

The MDD module communicates with two entities:

the terminal emulator on the PC. The MDD receives instructions (test to be executed) and transmits the menu to be shown and the test results;

the Audio Engine module. It instructs the Audio Engine via the interface field which test should be executed. The test result is retrieved from the interface field.

Requirements

The functionality of the Menu Driven Diagnostics module is to implement Menu Driven Diagnostics for service purposes. When the CDR recorder is connected to a PC via an interface board 7104 086 91111, connection cable 3104 157 11122 and a RS232 cable (available at PC shop), the service technician can select via a menu on the PC screen which test should be perfomed. The result of the test is also shown on the PC screen. No special test tool is needed for the PC; any terminal emulation program can be used (for example, HyperTerminal under Windows95/NT).

The last occurred error during a test session can be retrieved via the menu.

The RS232 connector should be soldered to pins:

1818-1 = Rx

1818-4 = Gnd

1818-2 = Tx

General Constraints

It is advised to connect the connection cable 3104 157 11122 to the Mainboard connector 1818 mounted just under the loader (topview). Via this cable also the powersupply for the interface board 7104 086 91111 is arranged when it is connected to connector 1000 on interfaceboard. To start this application at powering on; for 5 seconds the Rx and Tx output pin of the mainboard connector should be short circuited. This temporarily short circuit indicates the internal CDR software program to switch onto Menu Driven Diagnostics. This short cut can easily be done via the switch (1009) on the interface board. To communicate with the PC the RS232 cable has to be connected to output connector 1010 on the interface board and the switch (1009) should be released.

When switching on the CDR, two possibilities exist:

the RS232 cable is not connected. The application is executed (no MDD mode);

the RS232 connector is connected; Rx and Tx are short circuited for more than 5 seconds then the Menu Driven Diagnostics is started. By connecting via connection cable to interface and from there via the RS232 cable onto the PC, so the MDD can transmit the main menu to the PC.

User Interfaces

RS232 interface

The CDR recorder transmits the menu to be shown and the test results to the PC via connection cable 3104 157 11122, interface board 7104 086 91111 and a RS232 cable. It receives the selection of the user, chosen in the menu.

Hardware Interfaces

RS232 interface

The communication via RS232 should be set to the following settings:

Baudrate:19200

Databits:8

Stopbits1

Parity:none

Handshaking:none

Data Communication Interfaces
Communication between the CDR recorder and the PC is straightforward: everything the CDR recorder transmits to the PC is shown on the PC screen. Data, transmitted from the PC to the CDR775, is treated as a choice from the currently shown menu.
All functionality of the MDD has to be part of the CDR775 software; the PC can only use a terminal emulation program.

Menu Structure and Test Results
This chapter describes the structure of the menus and the results of the tests, as shown on the PC screen.

Menu Structure
When starting up, the PC screen is cleared and the software version and the main menu (level 1) are shown. From the main menu, one of the sub menus (level 2) can be selected. These sub menus contain other sub menus and/or a number of tests that can be executed. The menus are shown below. '>>' indicates that when this option is selected, a new menu will be shown.

Level 1 Mainmenu:
MAIN MENU
1 General tests >>
2 Retrieve last occurred error
3 Recorder module test >>
4 Playback module test >>* *Only used for the CDR775
5 Select adjust program CDM
6 Download new program

When a test is running, a 'test running indicator' (a dot) is showed on the screen every second, When a test has been executed, the screen is cleared and the result of the test (if any) and the menu, separated by one empty line, are showed.
Three types of tests exist:
Tests that return PASSED or FAILED, like the DRAM test. When a test has been executed, the result is showed on the PC screen;
Tests that return a value, the message 'PASSED, xxx' (with xxx is the returned value) is showed on the PC screen;
Tests that don't return anything, like the 'laser on' test. Most of these tests require a visual check of the service person. When one of these tests is executed, 'PASSED, visual check' is showed on the PC.

Level 2 menus
When a submenu is selected in the main menu, the level 2 menus are showed . These sub menus contain other sub menus and/or a number of tests that can be executed.

GENERAL TESTS MENU
1 Check DRAM
2 CHECK FLASH>>
3 Check ADC/DAC
4 Check LCD

RECORDER MODULE TEST MENU
1 communication test
2 Tray >>
3 Laser >>
4 Focus >>
5 Radial >>
6 Sledge >>
7 Miscellaneous >>
8 Jump grooves >>

PLAYBACK MODULE TEST MENU
1 communication test
2 Tray >>
3 Laser >>
4 Focus >>
5 Turntable motor >>
6 Radial >>
7 Sledge >>
8 Miscellaneous >>

Level 3 menus
CHECK FLASH MENU
1 Check FLASH
2 Manufacturar-ID and
3 Device ID

TRAY MENU
1 Open tray
2 Close tray

LASER MENU
1 Laser off
2 Laser on, read
3 Laser on, write*----------*'Laser on, write' only used for the recorder module

FOCUS MENU
1 Focus on
2 Focus off

TURNTABLE MOTOR
1 Turntable motor ON
2 Turntable motor OFF

RADIAL MENU
1 Radial control on
2 Radial control off

SLEDGE MENU
1 Sledge inwards
2 Sledge outwards* ----------*Sledge stays outwards for the recorder module; sledge moves inwards after 300 ms for playback module

JUMP GROOVES MENU
1 Jump grooves to inside
2 Jump grooves to middle
3 Jump grooves to outside

MISCELLANEOUS MENU
1 Start player
2 Stop player
3 Calibrate CD >>* ----------*Only used for recorder module
4 Get user profile logging
5 Erase CD-RW*----------*Only used for recorder module
6 Read firmware version**------**CD firmware version for CD-module, CDR firmware version for CDR-module

CALIBRATE CD MENU *--------*Only used for recorder module
1 Calibrate CD, N=1
2 Calibrate CD, N=2
3 Get last OPC values

End of test
These diagnostics can be quitted by powering off the player

5.2.4 Servo drivers check

SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 1, 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

FOCUS SERVO

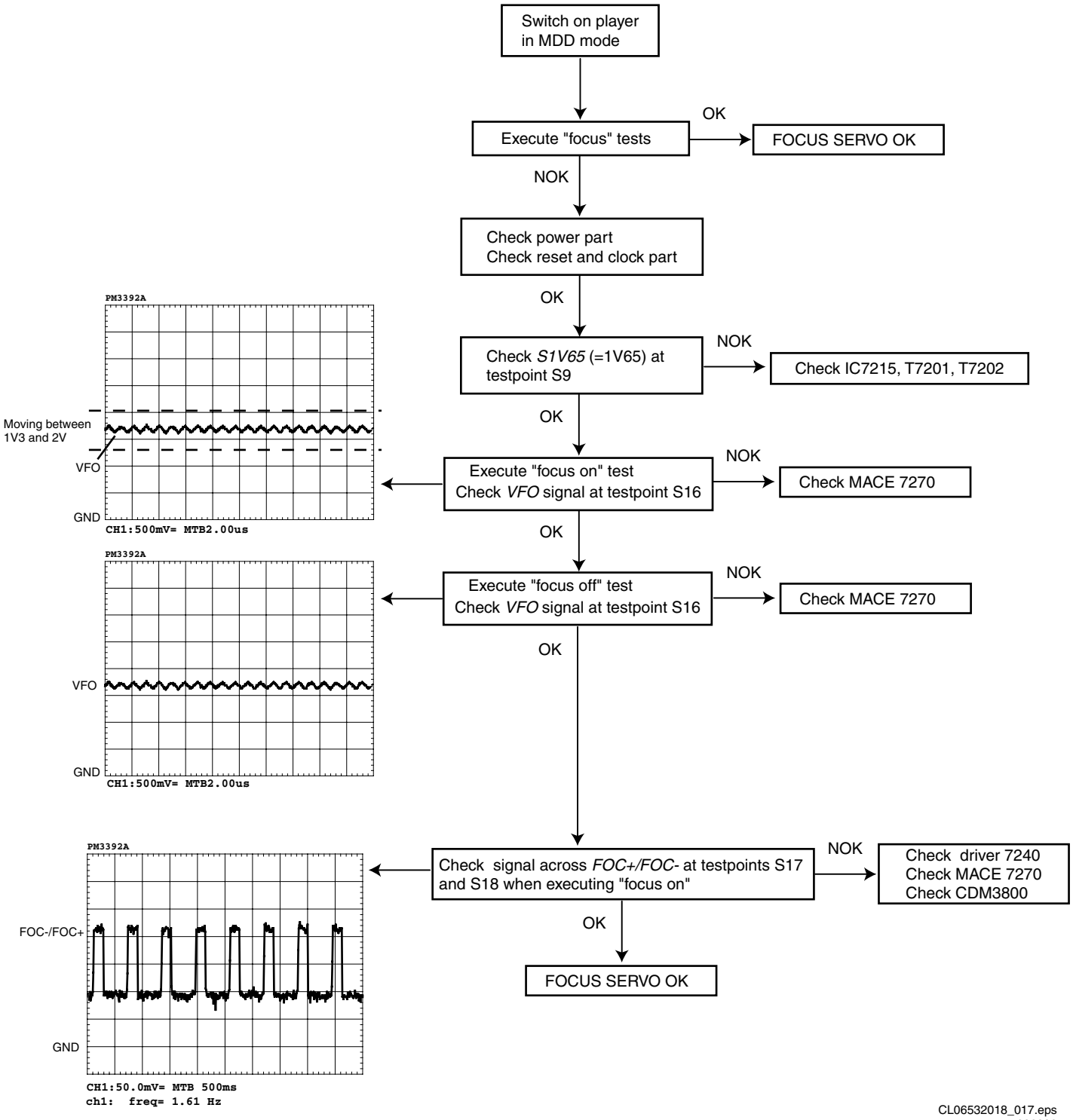


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Figure 5-15

SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 1, 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

RADIAL SERVO

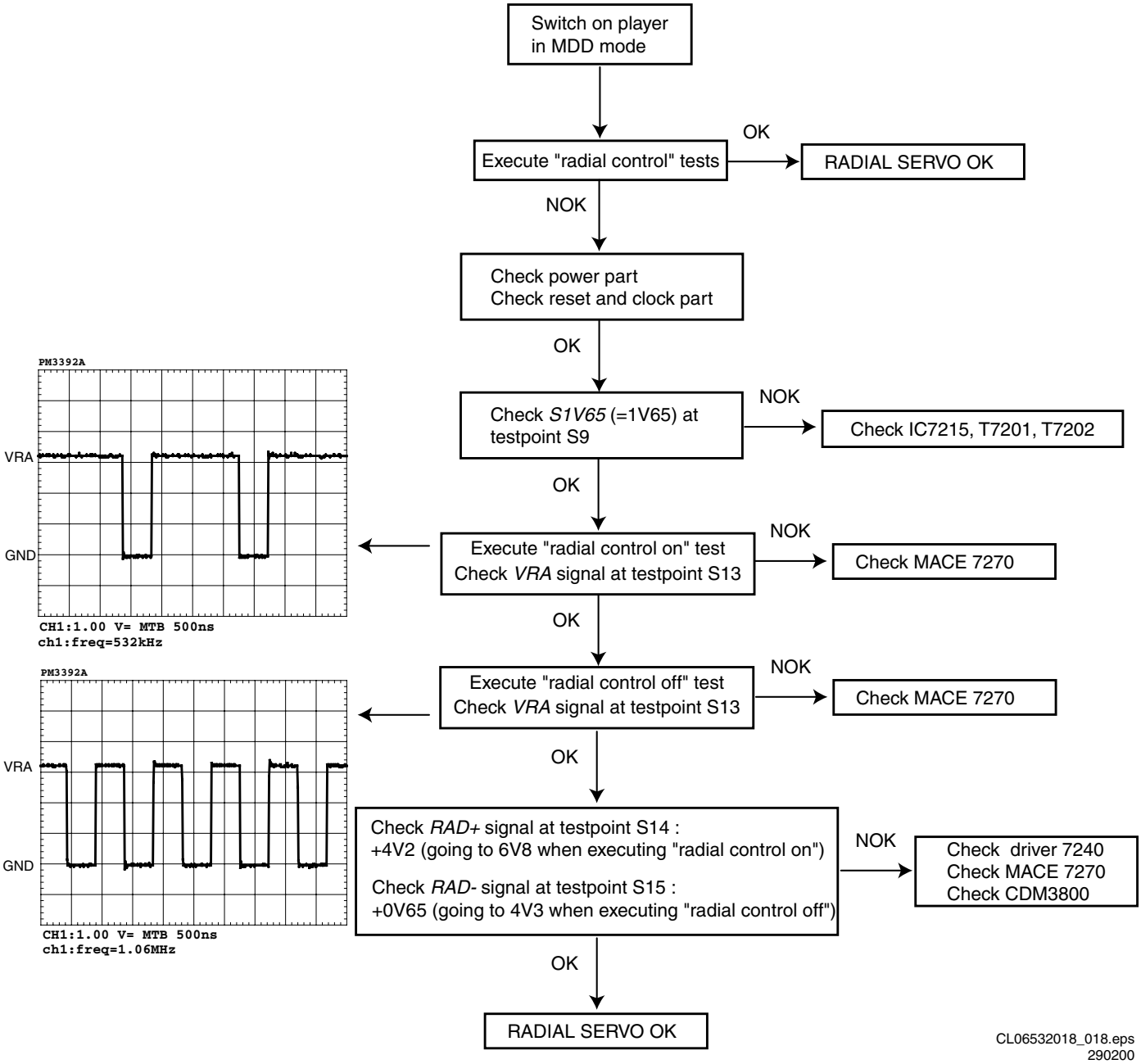

Figure 5-16

SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

SLEDGE SERVO

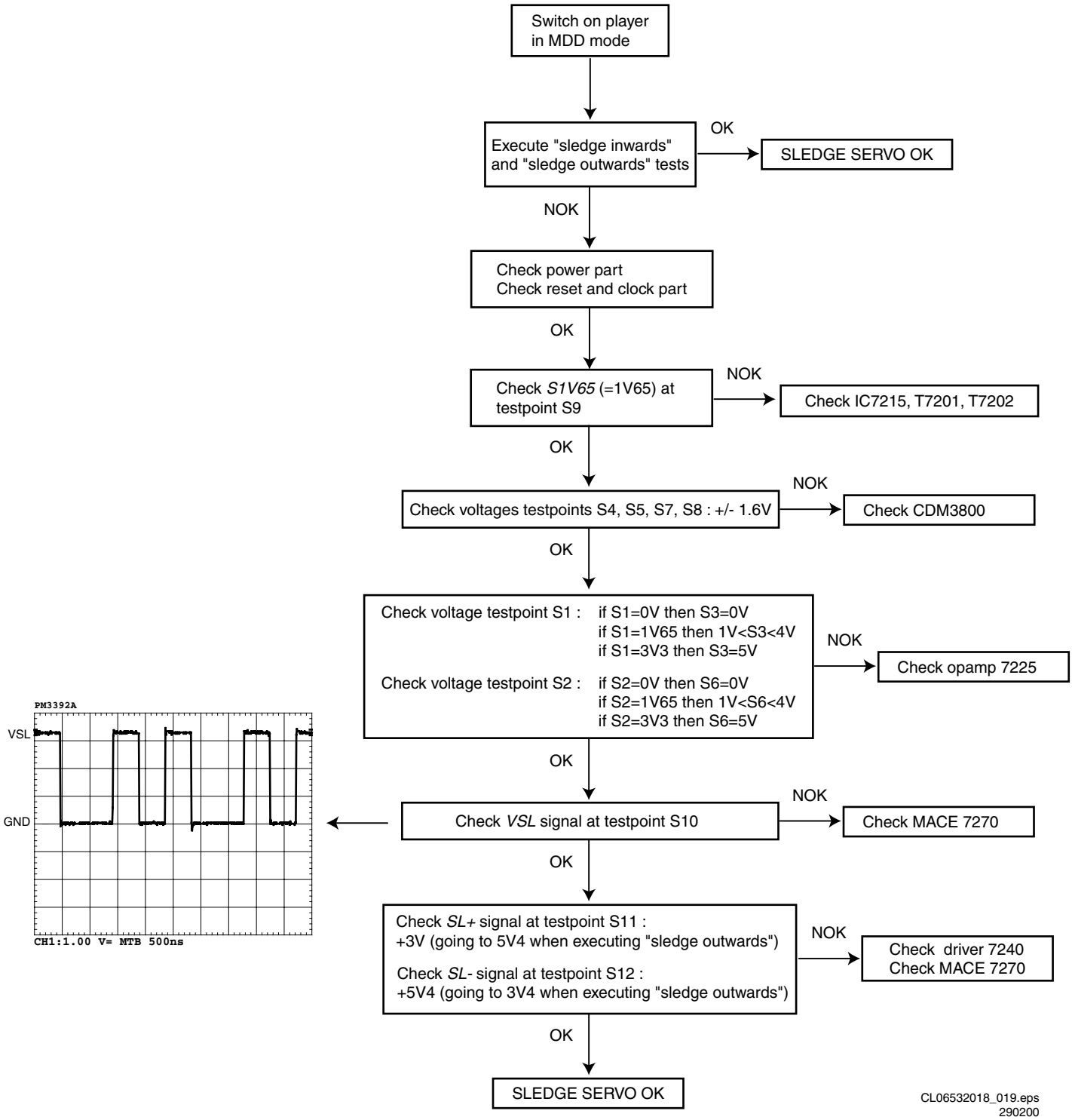

Figure 5-17

SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

TRAY SERVO

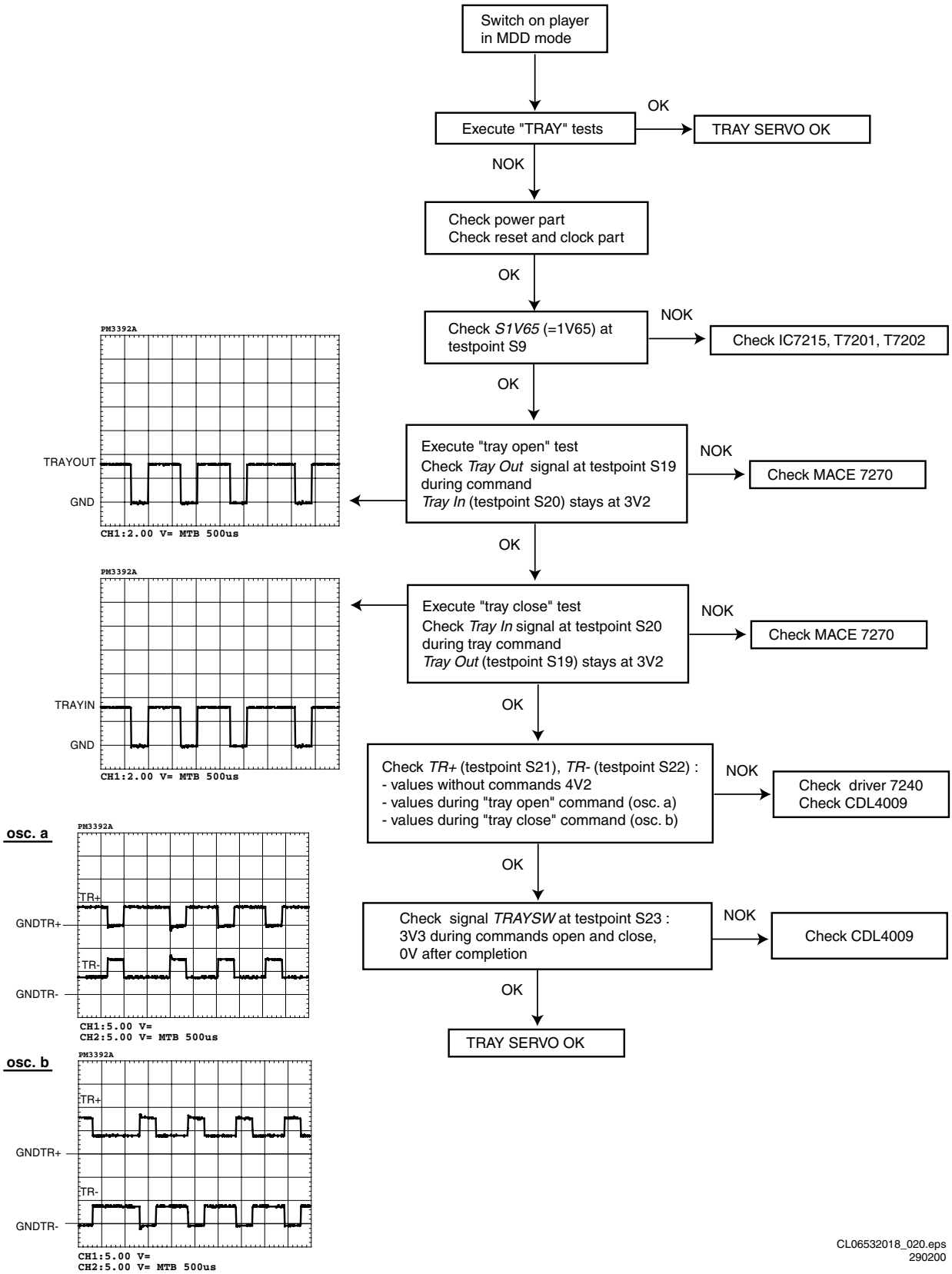

Figure 5-18

5.2.5 Audio signal check

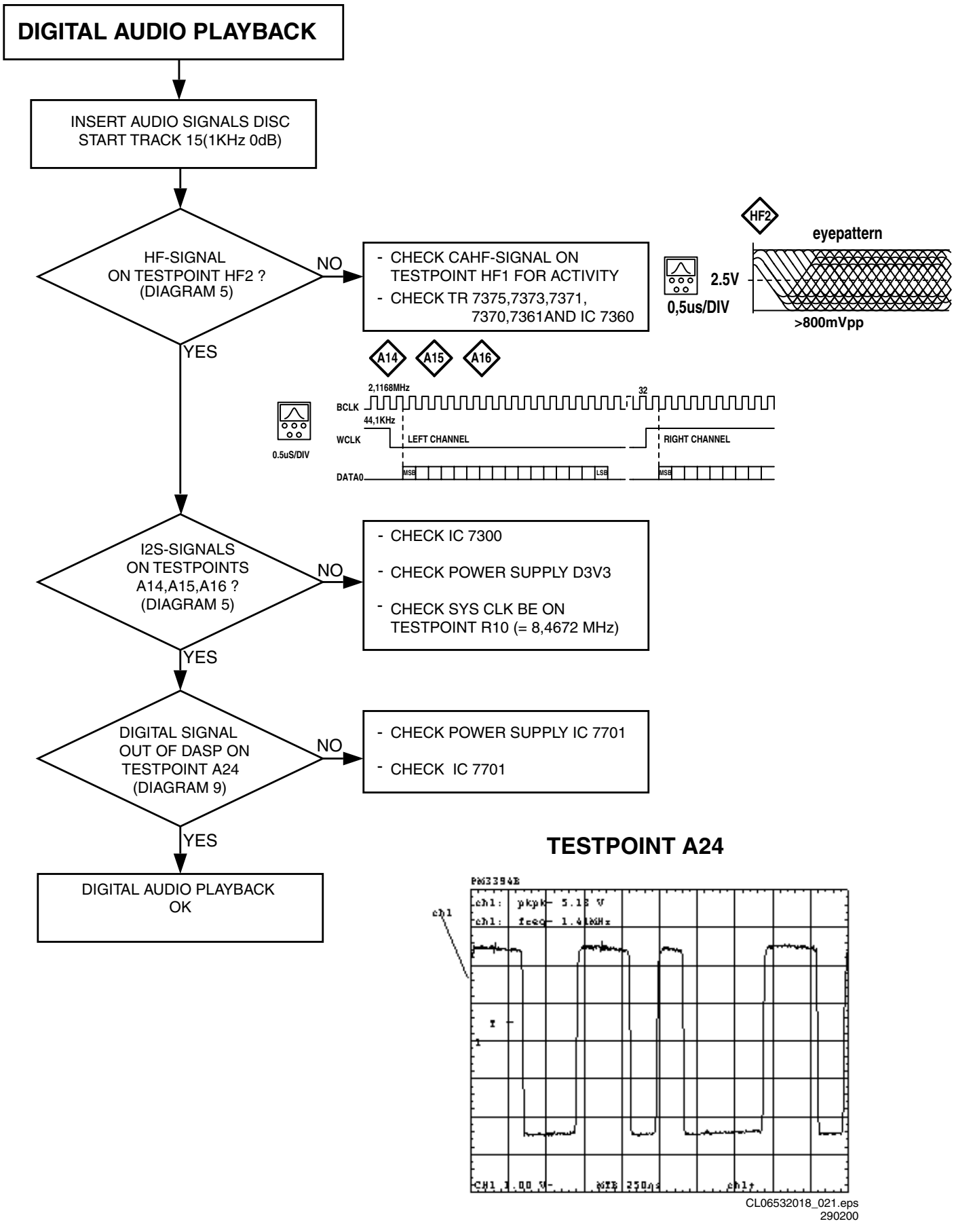

Figure 5-19

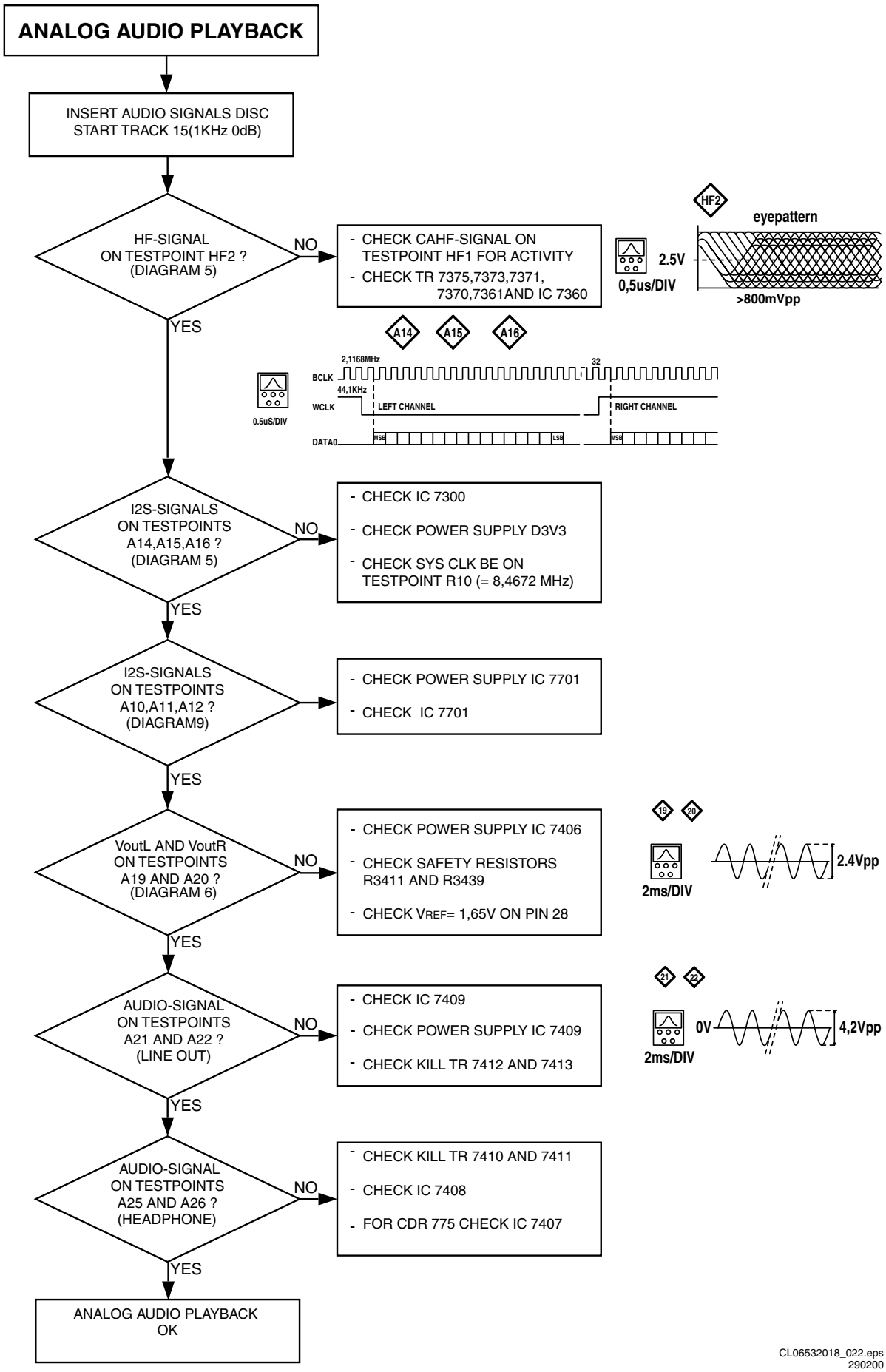

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Figure 5-20

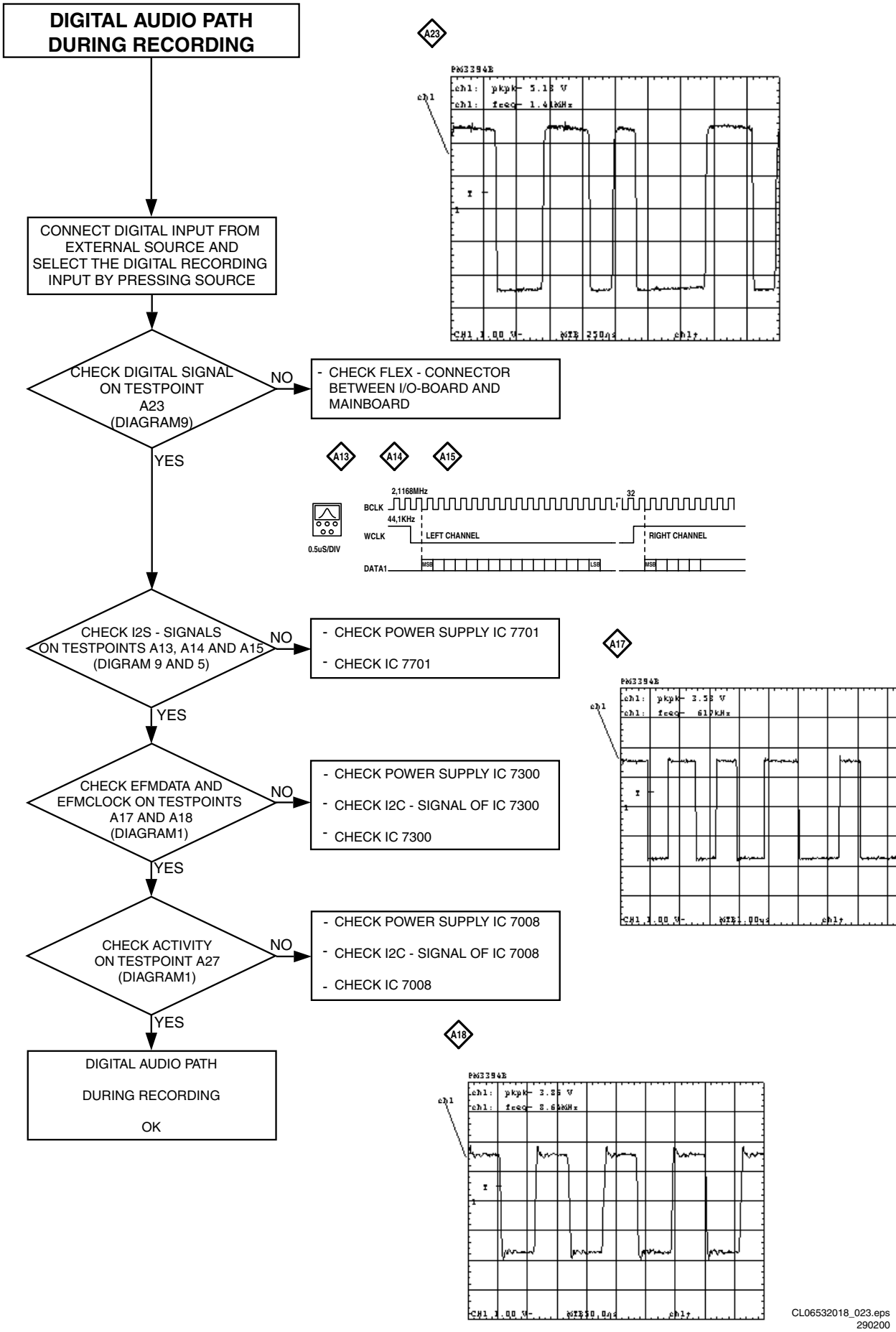
DIGITAL AUDIO PATH DURING RECORDING
CONNECT DIGITAL INPUT FROM EXTERNAL SOURCE AND SELECT THE DIGITAL RECORDING INPUT BY PRESSING SOURCE
CHECK DIGITAL SIGNAL ON TESTPOINT A23 (DIAGRAM9)
NO
- CHECK FLEX - CONNECTOR BETWEEN I/O-BOARD AND MAINBOARD
YES
CHECK I2S - SIGNALS ON TESTPOINTS A13, A14 AND A15 (DIGRAM 9 AND 5)
NO
- CHECK POWER SUPPLY IC 7701
- CHECK IC 7701
YES
CHECK EFMDATA AND EFMCLOCK ON TESTPOINTS A17 AND A18 (DIAGRAM1)
NO
- CHECK POWER SUPPLY IC 7300
- CHECK I2C - SIGNAL OF IC 7300
- CHECK IC 7300
YES
CHECK ACTIVITY ON TESTPOINT A27 (DIAGRAM1)
NO
- CHECK POWER SUPPLY IC 7008
- CHECK I2C - SIGNAL OF IC 7008
- CHECK IC 7008
YES
DIGITAL AUDIO PATH DURING RECORDING OK
A23
A13
A14
A15
A17
A18
2,1168MHz
32
BCLK
44,1KHz
WCLK
LEFT CHANNEL
RIGHT CHANNEL
DATA1
MSB
LSB
0.5uS/DIV
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Figure 5-21

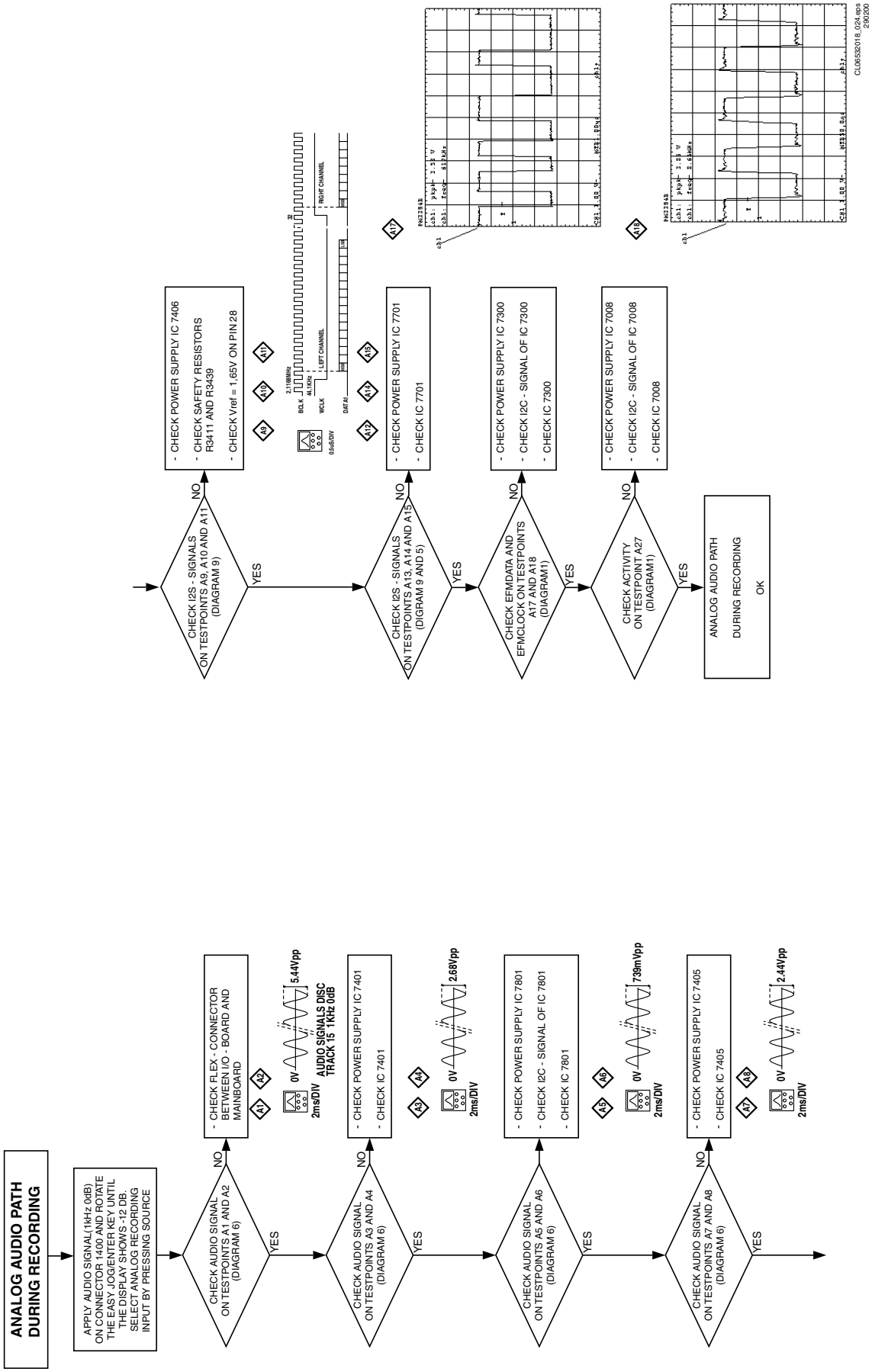
ANALOG AUDIO PATH DURING RECORDING
APPLY AUDIO SIGNAL(1kHz 0dB) ON CONNECTOR 1400 AND ROTATE THE EASY JOG/ENTER KEY UNTIL THE DISPLAY SHOWS -12 DB. SELECT ANALOG RECORDING INPUT BY PRESSING SOURCE
CHECK AUDIO SIGNAL ON TESTPOINTS A1 AND A2 (DIAGRAM 6)
NO
YES
- CHECK FLEX - CONNECTOR BETWEEN I/O - BOARD AND MAINBOARD
A2
A1
0V
5.44Vpp
2ms/DIV
AUDIO SIGNALS DISC TRACK 15 1KHz 0dB
CHECK AUDIO SIGNAL ON TESTPOINTS A3 AND A4 (DIAGRAM 6)
NO
YES
- CHECK POWER SUPPLY IC 7401
- CHECK IC 7401
A4
A3
0V
2.68Vpp
2ms/DIV
CHECK AUDIO SIGNAL ON TESTPOINTS A5 AND A6 (DIAGRAM 6)
NO
YES
- CHECK POWER SUPPLY IC 7801
- CHECK I2C - SIGNAL OF IC 7801
- CHECK IC 7801
A6
A5
0V
739mVpp
2ms/DIV
CHECK AUDIO SIGNAL ON TESTPOINTS A7 AND A8 (DIAGRAM 6)
NO
YES
- CHECK POWER SUPPLY IC 7405
- CHECK IC 7405
A8
A7
0V
2.44Vpp
2ms/DIV
CHECK I2S - SIGNALS ON TESTPOINTS A9, A10 AND A11 (DIAGRAM 9)
NO
YES
- CHECK POWER SUPPLY IC 7406
- CHECK SAFETY RESISTORS R3411 AND R3439
- CHECK Vref = 1,65V ON PIN 28
A9
A10
A11
2.1168MHz
BCLK
44.1KHz
WCLK
LEFT CHANNEL
RIGHT CHANNEL
DAT A1
05dB/DIV
CHECK I2S - SIGNALS ON TESTPOINTS A13, A14 AND A15 (DIGRAM 9 AND 5)
NO
YES
- CHECK POWER SUPPLY IC 7701
- CHECK IC 7701
A12
A13
A14
A15
A17
CHECK EFMDATA AND EFMCLOCK ON TESTPOINTS A17 AND A18 (DIAGRAM1)
NO
YES
- CHECK POWER SUPPLY IC 7300
- CHECK I2C - SIGNAL OF IC 7300
- CHECK IC 7300
CHECK ACTIVITY ON TESTPOINT A27 (DIAGRAM1)
NO
YES
- CHECK POWER SUPPLY IC 7008
- CHECK I2C - SIGNAL OF IC 7008
- CHECK IC 7008
A18
ANALOG AUDIO PATH
DURING RECORDING
OK
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Figure 5-22

8. Alignments & Adjustments

Each CDR-module composed from CDRloader and CDRmainboard has to be matched via SW filled parameters.This adjustment processed in the factory is under investigation to have it implemented into the COMPAIR tool. As long as this adjustment is not possible to be executed in secondline service workshop, the swop of modules and a central repair has to be continued. Adjustment only has to be done at replacement of CDM and concerned servo circuits. Other repairs (audio signals, replacement of adapted Flash roms etc) can be done without infringing the adjusted components.
As soon as COMPAIR CDR is installed this chapter will be adapted via a service information.
Flash Rom IC 7208 (MACE-ROM) is mounted on a socket and can be replaced after lifting up the loader part above it. Flash Rom IC 7703 (DASP-ROM) has to be soldered.
Take care for both ICs Firmware loaded components are mounted.

In case a module is offered with SW versions 1.4 and 91.48, the complete CDR-module should be replaced.

For SW versions 1.23 and 91.63, IC7703 and IC7208 have to be replaced by the latest SW verions.

9. Circuit description

9.1 Description

A separate circuit description concerning the 3rd generation CDR recorders is available with order number 3104 125 40100

9.2 List of Abbreviations

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
+12V	main supply voltage from PSU	+12V supply voltage from PSU
+12VA	supply voltage	+12V supply voltage for Audio part
+5V	main supply voltage from PSU	+5V supply voltage from PSU
+5VA	supply voltage	+5V supply voltage for Audio part
+9SRVPWR	IC7558 → IC7240	PoWeR supply for SeRVo driver IC
12VPWR	supply voltage	+12V supply voltage for servo part
-8V	main supply voltage from PSU	-8V supply voltage from PSU
-8VA	supply voltage	-8V supply voltage for Audio part
A(1:20)	IC7701 → R3818,R3819, R3820, R3821, R3897 → IC7703	Address lines 1 to 20 between DASP and flash ROM
A(10:20)	IC7701 → R3819, R3820, R3821 → IC7702	Address lines 10 to 20 between DASP and DRAM
A1	IC7010 → IC7270	amplitude of the “land” reflection relative to the average EFM, voltage output, OPC input
A1LF, A2LF	CONN1000 → IC7010	satellite photo diodes A1, A2 current output
A2	IC7010 → IC7270	amplitude of the “pit” reflection relative to the average EFM, voltage output, OPC input
A-8V	supply voltage	-8V supply voltage for servo part
AEGER		Analog Error signal GEnerator for Recordable
AINTON	IC7008 → IC7010	Alpha INTegrator ON (to AEGER)
ALE	* IC7270 → R3213 → IC7209, IC7300 * IC7270 → R3230	Address Latch Enable; external address latch strobe line, freeze address when low
ALPHA0	IC7270 → IC7010	analog voltage mode output from OPC D/A converter
ALS	IC7008 → IC7010	Alpha Loop Switch (to AEGER)
ASTROBE	IC7008 → IC7010	Alpha STROBE (to AEGER)
ATIP		Absolute Time In Pre-groove (sync signal)
ATIPSYNC	IC7300 → IC7270	ATIP SYNC signal
ATT	* IC7270 → R3717, R3722 * IC7270 → IC7701	ATTenuation request from MACE2 to audio DAC, active low; means that the output can be attenuated in case of search activities
B1LF, B2LF	CONN1000 → IC7010	satellite photo diodes B1, B2 current output
BCLK	IC7701 → R3898A → IC7300	I^2S1 BitCLocK from DASP to CDR60 (playback and record)
BE_RESET	* IC7701 → R3261 → IC7270 * IC7701 → R3716	Basic Engine RESET, active high
BIASC	IC7008 → R3056	BIAS Current switch CDRW output
BKPT	CONN1819, R3907 → IC7701	JTAG mode select / debug mode BreaKPoinT
C1LF, .. , C4LF	CONN1000 → IC7010	Central photo diodes C1, C2, C3, C4 current output
CAGAIN	R3016,R3115 → IC7010	set-point laser power on disc, current input
CAHF	CONN1000 → C2374	Central Aperture (central photo diodes) High Frequency current output (C1+C2+C3+C4)
CALF	IC7010 → IC7270	Central Aperture (central photo diodes) Low-pass Filtered signal (DC coupled EFM signal), voltage output, OPC input
CAS0	IC7701 → IC7702	Column Address Strobe DRAM for upper byte

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
CAS1	IC7701 → IC7702	Column Address Strobe DRAM for lower byte
CDR	IC7008 → IC7355	CDR strategy detected output (active high)
CDR60CFLG	IC7300 → R3382B → CONN1812	serial output of error corrector status information of the CDR60-decoder, to be measured at test connector
CDR60CL1	IC7300 → R3382C → CONN1812	output of CLock signal for testing system clock of IC CDR60 at test connector
CDR60CS	IC7270 → R3235B → R3702, IC7300	CDR60 Chip Select, active high
CDR60INT	IC7300 → IC7270	CDR60 INTerrupt line, active low
CDR60LWRT	IC7300 → R3048	CDR60 Laser WRiTe control output
CDR60MEAS1	IC7300 → R3382A → CONN1812	serial output of information about jitter, PLL frequency and asymmetry of bit recovery block in CDR60, to be measured at test connector
CDR60PLL	IC7270 → R3305 → IC7300	CDR60 clock multiplier enable, active high
CDRW	* IC7355D → IC7355C * IC7355D → CONN1000	inverted CDR-strategy-detected signal
CLK_OUT	IC7701 → R3771 → CONN1819	system CLocK OUT
CLK_SYS	IC7701 → R3727, R3731	oscillator output
COS-	CONN1220 → IC7225B	Hall feedback signal from sledge motor
COS+	CONN1220 → IC7225B	Hall feedback signal from sledge motor
CSFLASH	IC7701 → IC7703	Chip Select for FLASH or boot device
CSRAM	IC7270 → R3235A → R3703, IC7802	Chip Select SRAM, active low
D(16:31)	IC7701 ↔ R3822, R3823, R3824, R3825 ↔ IC7703, IC7702	Databus bit 16 to 31 between DASP, flash ROM and DRAM
D3V3	supply voltage	+3,3V supply voltage for Digital part
D5V	supply voltage	+5V supply voltage for Digital part
D5VS	supply voltage	+5V supply voltage for Servo part
DALPHA	IC7010 → R3037	ALPHA error signal for laser power control
DASP		Digital Audio Signal Processor
DATAI	IC7701 → R3898C → IC7300	I^2S1 DATA In from DASP to CDR60 (recording)
DATAO	IC7300 → R3314 → IC7701	I^2S1 DATA Out from CDR60 to DASP (playback)
DEEMP	* IC7270 → R3719, R3724 * IC7270 → IC7701	DE-EMphasis control for audio DAC from MACE2, active high; means that de-emphasis is needed in digital filter
DELTAP	IC7016 → R3126	DELTA Power current source drive signal from XDAC
DIG_OUT_C	IC7701 → R3706 → C2707, CONN1400	Common DIGital OUTput (consumer)
DISPLAY_INT	F934 → R3812, IC7701	DISPLAY INTerrupt
DMON	IC7270 → R3324	power save at stop, active low
DOBM_CD	CONN1708, C2731 → R3757 → R3903 → IC7701	Digital Output (EBU output) from CD player in CDR775 to DASP
DOBM_CDR	IC7300 → R3382D → C2379, IC7701	Digital Output (EBU output) from CDR60 to DASP
DRAM_RW	IC7701 → IC7702	Read/Write strobe for DRAM
DSA_ACK_CD	* IC7701 ↔ R3830 ↔ R3831	Data/Strobe/Acknowledge serial communication

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
	↔ CONN1708 * IC7701 ↔ R3830 ↔ C2735	between DASP and CD-player in CDR775
DSA_ACK_CDR	* IC7701 → R3729 → IC7270, CONN1830 * IC7701 → R3729 → R3769	Data/Strobe/Acknowledge serial communication between MACE2 and DASP for CDR; acknowledge input for MACE2 is strobe output for DASP
DSA_DATA_CD	* IC7701 ↔ R3828 ↔ R3829 ↔ CONN1708 * IC7701 ↔ R3828 ↔ C2733	Data/Strobe/Acknowledge serial communication between DASP and CD-player in CDR775
DSA_DATA_CDR	* IC7270↔R3246 ↔ R3813 ↔ IC7701, CONN1830 * IC7270↔R3246 ↔ R3767	Data/Strobe/Acknowledge serial communication between MACE2 and DASP for CDR
DSA_STR_CD	* IC7701 ↔ R3835 ↔ R3832 ↔ CONN1708 * IC7701 ↔ R3835 ↔C2734	Data/Strobe/Acknowledge serial communication between DASP and CD-player in CDR775
DSA_STR_CDR	* IC7270 → R3245 → IC7701, CONN1830 * IC7270 → R3245 → R3768	Data/Strobe/Acknowledge serial communication between MACE2 and DASP for CDR (strobe output for MACE2 is acknowledge input for DASP)
DSCLK	CONN1819, R3908 → IC7701	reset in / Debug Serial CLocK in
DSI	CONN1819, R3909 → IC7701	JTAG reset in / Debug Serial clock In
EFM		Eight to Fourteen Modulation = modulation method used for CD storage, also the actual raw CD signal as written or read on or from the CD disc
EFMCLK	IC7300 → IC7008	EFM CLocK output
EFMDATA	IC7300 → IC7008	EFM DATA output
EFMTIM3		EFM TIMing generator
EPON	IC7008 → R3010 IC7008 → C2010	Erase Power ON
EPONO	IC7008 → R3107	Erase Power ON Open drain output
EPONRC	R3004 → CONN1000	Erase Power ON (after RC circuit)
ERASEC	IC7008 → R3087	ERASE Current switch CDRW output
ERON	IC7008 → IC 7010	ERror ON (to AEGER)
EXT_DIG_IN1	CONN1400 → IC7701	EXTernal DIGital INput 1
EXT_DIG_IN2	CONN1702, C2767, C2721 → R3701 →IC7701	EXTernal DIGital INput 2 (CDR950 only)
EXT_OPT_IN	CONN1400, C2722 → R3708 → IC7701	EXTernal OPTical INput
F_READY	* IC7703 → R3817 → IC7701 * CONN1701 → IC7701	Flash READY detection, this line is forced low as long as the flash is busy with erase or program algorithm
F_RW	IC7701 → IC7708B	Read/Write strobe for Flash ROM
FEN	IC7010 → IC7270	Focus Error Normalized current output
FOC-	IC7240 → CONN1000	FOCus actuator drive signal negative connection
FOC+	IC7240 → CONN1000	FOCus actuator drive signal positive connection
FS30V	D6500 → CONN1000	Forward Sense diode 30V power supply
FSA	CONN1000 → T7119, T7120	Forward Sense photo diode current output
FSCLR	IC7008 → IC7126	Forward Sense signals CLeaR switch
FSOF	IC7008 → R3052	Forward Sense photo diode sampling OFf

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
FSON	IC7008 → R3051	Forward Sense photo diode sampling ON
FSR	R3040 → IC7270	Forward Sense signal while Reading for read control loop
FSRS	IC7008 → IC7126D	Forward Sense photo diode Read Sampling
FSW	R3050 → IC7270	Forward Sense signal while Writing for write control loop
FSWS	IC7008 → IC7126C	Forward Sense photo diode Write Sampling
FWEN	IC7270 → IC7208, R3806	Flash EPROM Write ENable
HALL_U, HALL_V, HALL_W	IC7330 → IC7300, CONN1812	HALL feedback signals from turn table motor via hall motor driver
HFS0	IC7270 → R3249 → IC7360	select HF circuit
I^2C		Inter IC
I^2C_CLK	* IC7701, R3711 → R3715 → C2709 → F934 * IC7701, R3711 → IC7801	I^2C CLocK line used for display slave processor and digital potmeter
I^2C_DATA	* IC7701, R3712 ↔ R3713 ↔ C2708, R3714 ↔ F934 * IC7701, R3712 ↔ IC7801	I^2C DATA line used for display slave processor and digital potmeter
I^2CL	R3248B → IC7207, R3247C	I^2C CLock line
I^2CSCL	* IC7207 → IC7008 * IC7207 → IC7010 * IC7207 → R3248B	I^2C Serial CLock line
I^2CSDA	* IC7207 ↔ IC7008 * IC7207 ↔ IC7010 * IC7207 ↔ R3248A	I^2C Serial DAta line
I^2DA	R3248A ↔ IC7270,R3247D	I^2C DAta line
I^2S_BCLK_AI	IC7701 → R3814 → IC7406	I^2S4 Bit CLocK for CODEC (ADC for CDR950) Analog Input (record from analog source)
I^2S_BCLK_AO	IC7701 → R3894A → IC7406	I^2S2 Bit CLocK for CODEC (DAC for CDR950) Analog Output
I^2S_BCLK_CD	CONN1708, C2739 → R3834 → IC7701	I^2S3 Bit CLocK from CD player (record n=2) (CDR775 only)
I^2S_BCLK_MIC	CONN1708, C2739 → R3834 → IC7701	I^2S3 Bit CLocK from MICrophone (CDR950 only)
I^2S_DATA_AI	IC7406 → IC7701	I^2S4 DATA from CODEC (ADC for CDR950) Analog Input (record from analog source)
I^2S_DATA_AO	IC7701 → R3894C → IC7406	I^2S2 DATA for CODEC (DAC for CDR950) Analog Output
I^2S_DATA_CD	CONN1708, C2738 → R3836 → IC7701	I^2S3 DATA from CD player (record n=2) (CDR775 only)
I^2S_DATA_MIC	CONN1708, C2738 → R3836 → IC7701	I^2S3 DATA from MICrophone (CDR950 only)
I^2S_WS_AI	IC7701 → R3743 → IC7406	I^2S4 Word CLocK for CODEC (ADC for CDR950) Analog Input (record from analog source)
I^2S_WS_AO	IC7701 → R3894B → IC7406	I^2S2 Word CLocK for CODEC (DAC for CDR950) Analog Output
I^2S_WS_CD	CONN1708, C2740 → R3833 → IC7701	I^2S3 Word CLocK from CD player (record n=2) (CDR775 only)

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
I^2S_WS_MIC	CONN1708, C2740 → R3833 → IC7701	I^2S3 Word CLocK from MICrophone (CDR950 only)
I^2S1_MS	IC7270 → R3910, IC7701	I^2S1 Master-Slave interrupt from MACE2
IE	T7121 → CONN1000	laser Erase drive current signal
INT_COPY_ANA	* IC7701 → R3721 → IC7401 * IC7701 → R3721 → R3410	select INTernal COPY ANAlog (in case of copy protected disc or track on CD drive) (CDR775 only)
IR	* T7135 → CONN1000 * T7135 → R3056 * T7135 → IC7008	laser Read drive current signal
IW	* T7122 → CONN1000 * T7122 → D6003	laser Write drive current signal
KEY_PRESSED	IC7706B → R3816 → IC7701	KEY PRESSED interrupt
KILL	T7560, T7561, R3560 → CONN1400, R3424, R3428	KILL signal from power supply part to audio outputs
KILL_OUT	IC7701 → R3532	disables the KILL activity from the PSU; 1 = no kill, 0 = kill active
L12V	supply voltage	+12V supply voltage for servo/Laser part
L3_CLK	IC7701 → R3725 → IC7406	L3 interface CLocK line / control CODEC (not for CDR950)
L3_DATA	IC7701 ↔ R3728 ↔ IC7406	L3 interface DATA line with CODEC (not for CDR950)
L3_MODE	IC7701 → R3735 → IC7406	L3 interface MODE line selects data or address transfer mode for CODEC (not for CDR950)
L5V	supply voltage	+5V supply voltage for servo/Laser part
L-5V	supply voltage	-5V supply voltage for servo/Laser part
LASCK	IC7270 ↔ R3248D	ClocK line DAC LASer control
LASDACCK	R3248D ↔ IC7016	ClocK line DAC LASer control
LASDACDI	R3248C ↔ IC7016	Data line DAC LASer control
LASDACLD	R3212 ↔ IC7016	LoaD line DAC LASer control
LASDD	IC7270 ↔ R3248C	Data line DAC LASer control
LASLD	* IC7270 ↔ R3238 ↔ R3212 * IC7270 ↔ R3232	LoaD line DAC LASer control
LEFT	CONN1708, C2743 → IC7401C, IC7407C	audio output LEFT channel from CD-player in CDR775
LLP	IC7270 → IC7300	Laser Low Power (active high), switches the laser from write to read power whenever the device tends to go offtrack
LWRT	R3048 → IC7008	Laser WRiTe control input
MA(16:17)	IC7270 ↔ IC7208	bank switch higher address lines
MA(8:15)	IC7270 ↔ IC7802 ↔ IC7208	address bus high byte
MACE2		Mini All Cd Engine (minus decoder + OPC + PCS + extra RAM)
MAD(0:7)	IC7270 ↔ IC7209 ↔ IC7802 ↔ IC7208 ↔ IC7300	bi-directional data bus / address bus low byte
MIRN	IC7010 → IC7270	MIRror Normalized (disc reflection) current output
MOTO1	IC7300 → IC7355A	turn table MOTOr control output

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
MRDN	IC7270 → R3276 → R3242A, IC7802, IC7300	Master ReaD, read strobe for external peripherals, active low
MUTE	* IC7270 → R3718, R3723 * IC7270 → IC7701	MUTE control from MACE2 to DASP, active low
MWRN	IC7270 → R3280 → R3242B, IC7802, IC7300	Master WRite, write strobe for external peripherals, active low
NMUTE	IC7701 → R3726, IC7406	MUTE output, low active
OFFTRACK	IC7270 → IC7300	OFFTRACK detection flag
OPC		Optimum Power Calibration
P12VKILL	supply voltage	+12V supply voltage for KILL-circuit
PCS		Position Control Sledge
PCSCOS	IC7225B, C2229 → IC7270, CONN1812	Position Control Sledge COS feedback signal
PCSSIN	IC7225A, C2227 → IC7270, CONN1812	Position Control Sledge SIN feedback signal
PDAR		Photo Diode Amplifier Recordable
PERASE	R3036, R3031, R3030, R3029, R3028, R3027, R3020 → IC7002C, R3043, T7113	laser Power switch for ERASE
POWER_UP	IC7270 → R3243C,R3556, R3538	standby pin, high level activates essential powers necessary for full function; overrules HI_POWER setting
PPN	IC7010 → IC7050C	Push-Pull signal, Normalized, balanced, voltage output
PRCOARSE	IC7016 → R3057	drive signal from Power Read COARSE DAC for read current source
PRFINE	IC7016 → R3058	drive signal from Power Read FINE DAC for read current source
PROF_EBU	IC7701 → CONN1820	PROFessional digital output (CDR950 only)
PSENn	* IC7270 → R3260 → IC7208 * IC7270 → R3231	Program Store ENable; external ROM output enable line, active low
PW	R3081 → IC7008	Write Power signal to OPC input of MACE2
PWB	IC7001C → IC7016	drive signal to XDAC's for write and erase current sources and VCAGAIN
PWD	* IC7016 → IC7002B * IC7016 → IC7002C	drive signal from XDAC for write and erase current sources
PWMAX	IC7016 → R3073	PW MAXimum signal from DAC used for determining set point for laser power during writing
PWMIN	IC7016 → R3072	PW MINimum signal from DAC used for determining set point for laser power during writing
PWRITE	R3035, R3026, R3025, R3024, R3023, R3022, R3021 → IC7002B, R3044, T7124	laser Power switch for WRITE
RAD-	IC7240 → CONN1000	Radial actuator drive signal negative connection
RAD+	IC7240 → CONN1000	Radial actuator drive signal positive connection
RAS0	IC7701 → IC7702	Row Address Strobe DRAM
RCK	IC7300 → R3319 → IC7701	EIAJ subcode clock from CDR60 to DASP (CD text interface)
RDGAIN1	IC7008 → R3054	forward sense ReaD GAIN switch 1

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
RDGAIN2	IC7008 → C2027	forward sense ReaD GAIN switch 2
RDGAIN3	IC7008 → C2060	forward sense ReaD GAIN switch 3
RE	IC7010 → IC7215A	Radial Error signal for fast track counting, voltage output
RECORDING	* IC7008 → IC7010 * IC7008 → CONN1000 * IC7008 → IC7355C	RECORDING output (active high)
REN	IC7010 → IC7270	Radial Error Normalized current output
RIGHT	CONN1708, C2742 → IC7401A, IC7407A	audio output RIGHT channel from CD-player in CDR775
RXD_TOOL	CONN1818 → IC7701	Receive of UART for test TOOL
S1V65	Referenve Voltage	1.65V delivered by IC7215B for Servo part
S2V9	Reference Voltage	2.9V delivered by IC7010 for Servo part
SEL_HP_OUT	* IC7701 → R3720 → IC7407	SELect HeadPhone OUTput in DJ-mode (for CDR775 only)
SFSY	IC7701 → R3756 → IC7300	EIAJ subcode synchronisation from DASP to CDR60 (CD text interface)
SIN-	CONN1220 → IC7225A	Hall feedback signal from sledge motor
SIN+	CONN1220 → IC7225A	Hall feedback signal from sledge motor
SL-	IC7240 → R3265 → CONN1220	SLedge motor drive signal negative connection
SL+	IC7240 → CONN1220	SLedge motor drive signal positive connection
SRSTN	IC7270 → R3243B, IC7300	Slave ReSeT out (CDR60 reset), active low
STANDBY	IC7270 → R3807 → R3887 → IC7701	STANDBY pin, high level activates essential powers necessary for full function; overrules HI_POWER setting
SUB	IC7701 → R3710 → IC7300	EIAJ subcode data from DASP to CDR60 (CD text interface)
SYS_CLK_11W	IC7701 → R3732 → IC7406	11.2896 MHz SYStem CLocK for AD/DA datapath
SYS_CLK_16W	IC7701 → R3894D→ IC7706A	16.9344 MHz SYStem CLocK for producing SYS_CLK_BE
SYS_CLK_8W	IC7706A → R3815 → CONN1708	SYstem CLocK CD player (8.4672 MHz) (CDR775 only)
SYS_CLK_BE	IC7706A → R3826 → IC7270	SYstem CLocK Basic Engine (8.4672 MHz)
SYS_RESET	* IC7701 → R3758 → CONNF934 * IC7701 → R3770 → T7707 → CONN1708	SYStem RESET to display assy (and CD player for CDR775)
TCK	CONN1819 → R3906, IC7701	JTAG ClocK signal
TDSO	IC7701 → CONN1819	JTAG Serial Data Out / debug data out
TERMB	IC7270 ↔ CONN1818	UART connection with MACE
TLN	IC7010 → IC7270	Track Loss Normalized current output
TR-	IC7240 → CONN1200	TRay motor drive signal negative connection
TR+	IC7240 → CONN1200	TRay motor drive signal positive connection
TRACE99_RXD	CONN1818 → R3838, IC7701	TRACE99 test tool receive data
TRACE99_TXD	IC7701 → CONN1818	TRACE99 test tool transmit data
TRAYIN	IC7270 → IC7240	move TRAY IN line, active low

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SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
TRAYOUT	IC7270 → IC7240	move TRAY OUT line, active low
TRAYSW	* CONN1200 → R3747 * CONN1200 → R3748	TRAY SWitch signal from loader assy
TRAYSWF	R3748, C2214 → IC7270	Filtered TRAY SWitch signal, low is completely out or in
TXD_TOOL	IC7701 → CONN1818	Transmit of UART for test TOOL
U+, U-, V+, V-, W+, W-	CONN1330 → IC7330	hall feedback signals from turn table motor to hall motor driver
UCOIL, VCOIL, WCOIL	IC7330 → CONN1330	drive signals for turn table motor
VCAGAIN	IC7016 → IC7005A	set-point laser power on disc, voltage output
VDC1	CONN1500 → CONNF934	supply voltage for display assy
VDC2	CONN1500 → CONNF934	supply voltage for display assy
VFO	IC7270 → R3295 → R3244	FOcus actuator drive output
VFTD	CONN1500 → CONNF934	Voltage Fluorescent Tube Display (display assy)
VRA	IC7270 → R3297 → R3254	RAdial actuator drive output
VSL	IC7270 → R3299 → IC7240	SLedge actuator drive output
WCLK	IC7701 → R3898B → IC7300	I^2S1 WordCLocK from DASP to CDR60 (playback and record)
WOBBLE	IC7050C → IC7300	analog WOBBLE signal of pre-groove detected by PPN-signal
WPON	* IC7008 → R3009 * IC7008 → C2009	Write Power ON
WPONO	IC7008 → R3106	Write Power ON Open drain output
WPONRC	R3003 → CONN1000	Write Power ON (after RC circuit)
XDAC		multiplying DAC

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10. Spareparts List

ELECTRICAL PARTSLIST MAINBOARD CDR'99

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
1000	482226710666	30 P. FEM.	+	+	+	+
1541	482225251173	19398E1(1,000A)	+	+	+	+
1542	482225251173	19398E1(1,000A)	+	+	+	+
1543	482225251173	19398E1(1,000A)	+	+	+	+
1707	482224210757	33.868 000MHZ SM 20P CX-11F	+	+	+	+
1708	482226760409	CONN 22P FEMALE	+	-	-	-
1820	482226710666	30 P. FEM.	-	-	-	+
2001	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2002	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2003	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2009	482212233753	150PF 5%NP0 50V	+	+	+	+
2010	482212233753	150PF 5%NP0 50V	+	+	+	+
2011	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2012	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2013	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2014	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2015	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2016	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2018	482212613694	68PF 1% NP0 63V	+	+	+	+
2019	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2020	482212613188	15NF 5% X7R 63V	+	+	+	+
2021	482212233177	10NF 20% X7R 50V	+	+	+	+
2022	482212233177	10NF 20% X7R 50V	+	+	+	+
2023	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2024	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2025	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2026	222286115272	CER1 0805 NP0 50V	+	+	+	+
2027	222286115272	CER1 0805 NP0 50V	+	+	+	+
2028	532212232531	100PF 5%NP0 50V	+	+	+	+
2029	532212232531	100PF 5%NP0 50V	+	+	+	+
2030	532212231647	1NF10%X7R 63V	+	+	+	+
2031	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2032	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2033	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2037	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2038	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2039	482212233177	10NF 20% X7R 50V	+	+	+	+
2040	482212233172	390PF 5% NP0 50V	+	+	+	+
2041	532212234099	470PF10%X7R 63V	+	+	+	+
2042	532212233538	150PF 2%NP0 63V	+	+	+	+
2043	532212231647	1NF10%X7R 63V	+	+	+	+
2044	482212613486	15PF 2% NP0 63V	+	+	+	+
2045	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2046	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2047	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2048	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2049	532212611579	3,3NF10%X7R 63V	+	+	+	+
2050	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2052	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2053	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2054	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2056	532212611579	3,3NF10%X7R 63V	+	+	+	+
2057	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2058	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2059	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2060	532212611579	3,3NF10%X7R 63V	+	+	+	+
2061	482212411947	10UF 20% 16V	+	+	+	+

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ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2063	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2078	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2080	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2081	532211680853	560PF 5%NP0 63V	+	+	+	+
2082	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2083	482212613956	68PF 5% NP0 63V CASE 0603	+	+	+	+
2084	482212232627	2.7NF10%X7R 50V	+	+	+	+
2126	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2207	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2208	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2209	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2214	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2216	482212233777	47PF 5%NP0 63V	+	+	+	+
2217	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2218	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2220	319801734730	CER2 0603 X7R 16V 47N COL	+	+	+	+
2221	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2222	482212614226	82PF 5% NP0 50V 0603	+	+	+	+
2224	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2225	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2226	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2227	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2228	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2229	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2230	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2231	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2232	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2233	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2234	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2235	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2240	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2241	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2242	482212441796	22UF20% 16V	+	+	+	+
2243	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2255	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2256	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2272	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2273	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2274	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2275	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2276	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2277	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2278	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2283	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2284	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2285	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2286	482212233127	2,2NF10%X7R 63V	+	+	+	+
2287	482212233127	2,2NF10%X7R 63V	+	+	+	+
2288	532212232654	22NF10%X7R 63V	+	+	+	+
2289	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2291	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2300	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2302	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2303	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2304	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2305	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2306	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2308	222286115222	CER1 0805 NP0 50V 2N2 PM5	+	+	+	+
2309	222286115222	CER1 0805 NP0 50V 2N2 PM5	+	+	+	+
2310	222286115222	CER1 0805 NP0 50V 2N2 PM5	+	+	+	+
2314	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+

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ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2315	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2316	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2317	532212611579	3,3NF10%X7R 63V	+	+	+	+
2318	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2319	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2320	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2321	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2322	532212611579	3,3NF10%X7R 63V	+	+	+	+
2333	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2335	319801734730	CER2 0603 X7R 16V 47N COL	+	+	+	+
2336	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2337	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2355	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2359	482212613692	47PF 1% NP0 63V	+	+	+	+
2360	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2362	482212613751	47NF10% X7R 63V	+	+	+	+
2364	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2368	223886115182	CER1 0805 NP0 50V 1N8 PM5 R	+	+	+	+
2369	532212232268	470PF 10% 50V	+	+	+	+
2370	482212441796	22UF20% 16V	+	+	+	+
2371	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2372	532212232447	1PF 5% NP0 63V CASE 0805	+	+	+	+
2373	482212441796	22UF20% 16V	+	+	+	+
2374	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2375	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2378	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2379	482212613692	47PF 1% NP0 63V	+	+	+	+
2401	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2402	482205120008	0R00 JUMP. (0805)	+	+	+	+
2404	482212412245	ELCAP 10V 220U PM20	+	+	+	-
2405	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2406	532212411919	47UF 20% 6,3V	+	+	+	-
2407	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2408	532212411919	47UF 20% 6,3V	+	+	+	-
2409	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2411	319803074780	ELCAP SM 35V 4U7 PM20 COL R	+	+	+	-
2413	482212613838	100NF Y5V 0805 50V P80M20	+	+	+	-
2414	482212480483	47UF20% 6,3V	+	+	+	-
2415	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2417	319803074780	ELCAP SM 35V 4U7 PM20 COL R	+	+	+	-
2419	482212613838	100NF Y5V 0805 50V P80M20	+	+	+	-
2421	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2422	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2424	482212480483	47UF20% 6,3V	+	+	+	-
2425	482212233216	270PF 5%NP0 50V	+	+	-	-
2430	482212480483	47UF20% 6,3V	+	+	+	-
2431	482212233216	270PF 5%NP0 50V	+	-	-	-
2433	482212614585	100NF 10% X7R 0805 50V	+	-	-	-
2434	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2435	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2437	202002490264	ELCAP MA 4V S 470U PM20 A	+	+	+	-
2438	202002490264	ELCAP MA 4V S 470U PM20 A	+	+	+	-
2440	482212480483	47UF20% 6,3V	+	+	+	-
2441	482212480483	47UF20% 6,3V	+	+	+	-
2442	532212231647	1NF10%X7R 63V	+	+	+	-
2443	532212231647	1NF10%X7R 63V	+	+	+	-
2450	482212233216	270PF 5%NP0 50V	+	+	+	-
2451	482212233216	270PF 5%NP0 50V	+	+	+	-
2460	482212611663	12PF	+	+	+	-
2463	482212233926	12PF 50V	+	+	+	-
2464	482212611663	12PF	+	+	+	-

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ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2465	482212611663	12PF	+	+	+	-
2500	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2501	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2502	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2504	482212412245		+	+	+	+
2505	482212412255	10UF 20% 50V	+	+	+	+
2506	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2507	482212412255	10UF 20% 50V	+	+	+	+
2508	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2509	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2535	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2536	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2537	532212411919	47UF 20% 6,3V	+	+	+	+
2541	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2543	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2544	482212480483	47UF20% 6,3V	+	+	+	+
2546	482212480483	47UF20% 6,3V	+	+	+	+
2547	482212481286	47UF20% 16V	+	+	+	+
2548	482212441643	100UF 20% 16V DIM:6,3X11MM	+	+	+	+
2550	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2551	482212441796	22UF20% 16V	+	+	+	+
2552	532212231647	1NF10%X7R 63V	+	+	+	+
2553	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2555	482212233177	10NF 20% X7R 50V	+	+	+	+
2556	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2557	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2558	482212441584	100UF 20% 10V	+	+	+	+
2561	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2562	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2563	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2565	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2568	482212441643	100UF 20% 16V DIM:6,3X11MM	+	+	+	+
2571	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2572	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2574	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2575	482212412245	ELCAP 220U 16V 20%	+	+	+	+
2576	482212613838	100NF Y5V 0805 50V P80M20	+	+	+	+
2577	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2700	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2701	532212411919	47UF 20% 6,3V	+	+	+	+
2702	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2703	532212411919	47UF 20% 6,3V	+	+	+	+
2704	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2705	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2706	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2707	482212613692	47PF 1% NP0 63V	+	+	+	+
2708	482212613692	47PF 1% NP0 63V	+	+	+	+
2709	482212613692	47PF 1% NP0 63V	+	+	+	+
2710	532212411919	47UF 20% 6,3V	+	+	+	+
2711	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2712	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2713	532212611583	10NF 10% X7R 50V 0603 CER2	+	+	+	+
2714	482212614549	33N 16V X7R O6O3	+	+	+	+
2715	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2716	532212611583	10NF 10% X7R 50V 0603 CER2	+	+	+	+
2717	319801741050	CER2 0603 Y5V 10V 1U COL R	+	+	+	+
2718	532211680853	560PF 5%NP0 63V	+	+	+	+
2719	532211680853	560PF 5%NP0 63V	+	+	+	+
2720	532212231647	1NF10%X7R 63V	+	+	+	+
2721	482212613692	47PF 1% NP0 63V	+	+	+	+
2722	482212613692	47PF 1% NP0 63V	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2723	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2725	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2726	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2727	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2728	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2731	482212613692	47PF 1% NP0 63V	+	-	-	-
2733	482212233777	47PF 5%NP0 63V	+	-	-	-
2734	482212233777	47PF 5%NP0 63V	+	-	-	-
2735	482212233777	47PF 5%NP0 63V	+	-	-	-
2736	482212614305	100NF 10% X7R 16V 0603 CER2	+	-	-	-
2737	482212614305	100NF 10% X7R 16V 0603 CER2	+	-	-	-
2738	482212233777	47PF 5%NP0 63V	+	-	-	-
2739	482212233777	47PF 5%NP0 63V	+	-	-	-
2740	482212233777	47PF 5%NP0 63V	+	-	-	-
2741	482212233777	47PF 5%NP0 63V	+	-	-	-
2742	482212233777	47PF 5%NP0 63V	+	-	-	-
2743	482212233777	47PF 5%NP0 63V	+	-	-	-
2750	319801741050	CER2 0603 Y5V 10V 1U COL R	+	+	+	+
2751	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2752	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2760	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2761	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2762	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2763	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2764	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2765	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2766	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2901	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2902	482205120008	0R00 JUMP. (0805)	+	+	+	+
2903	319802190030	RST JUMPER 0603 0.05 OHM	+	+	-	+
2904	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2905	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2906	482205120008	0R00 JUMP. (0805)	+	+	+	+
2907	482205120008	0R00 JUMP. (0805)	+	+	+	+
2908	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2909	319801741050	CER2 0603 Y5V 10V 1U COL R	+	+	+	+
2910	482212412245	ELCAP 220U 16V 20%	+	+	+	+
3000	482205120101	100R00 5% 0,1W	+	+	+	+
3001	482211711151	1R 5%	+	+	+	+
3002	482205120122	1K20 5% 0,1W	+	+	+	+
3003	482205130121	120R00 5% 0,062W	+	+	+	+
3004	482205130121	120R00 5% 0,062W	+	+	+	+
3006	482205130008	0R00 JUMPER	+	+	+	+
3007	482205120154	150K00 5% 0,1W	+	+	+	+
3009	482205130681	680R00 5% 0,062W	+	+	+	+
3010	482205130681	680R00 5% 0,062W	+	+	+	+
3011	482205120829	82R00 5% 0,1W	+	+	+	+
3012	482205130154	150K00 5% 0,062W	+	+	+	+
3013	482205120105	1M00 5% 0,1W	+	+	+	+
3014	482211711139	1K5 1% 0,1W	+	+	+	+
3015	482211683933	15K 1% 0,1W	+	+	+	+
3016	482211713172	62K 1% RC12H 0805 0,1W	+	+	+	+
3017	482205130392	3K9 5% 0.063W 0603	+	+	+	+
3019	482205130105	1M00 5% 0,062W	+	+	+	+
3020	482211683933	15K 1% 0,1W	+	+	+	+
3021	482211683933	15K 1% 0,1W	+	+	+	+
3022	482211711456	30K 1% 0,1W	+	+	+	+
3023	482211713172	62K 1% RC12H 0805 0,1W	+	+	+	+
3024	482211711374	120K 1% RC12H 0805	+	+	+	+
3025	482211713569	240K 1% 0805 RC12H	+	+	+	+
3026	482205120474	470K00 5% 0,1W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3027	482211711456	30K 1% 0,1W	+	+	+	+
3028	482211713172	62K 1% RC12H 0805 0,1W	+	+	+	+
3029	482211711374	120K 1% RC12H 0805	+	+	+	+
3030	482211713569	240K 1% 0805 RC12H	+	+	+	+
3031	482205120474	470K00 5% 0,1W	+	+	+	+
3035	482211713571	910K 1% 0805 RC12H	+	+	+	+
3036	482211713571	910K 1% 0805 RC12H	+	+	+	+
3037	482211710833	10K 1% 0,1W	+	+	+	+
3039	482205130183	18K00 5% 0,062W	+	+	+	+
3040	482205130101	100R00 5% 0,062W	+	+	+	+
3041	482205130103	10K00 5% 0,062W	+	+	+	+
3043	482205130105	1M00 5% 0,062W	+	+	+	+
3044	482205120105	1M00 5% 0,1W	+	+	+	+
3048	482205130103	10K00 5% 0,062W	+	+	+	+
3049	482205110102	1K00 2% 0,25W	+	+	+	+
3050	482205130101	100R00 5% 0,062W	+	+	+	+
3051	482211712902	8K2 1% 0.063W 0603	+	+	+	+
3052	482211712902	8K2 1% 0.063W 0603	+	+	+	+
3053	482205130102	1K00 5% 0,062W	+	+	+	+
3054	482211711188	20K 1% 0,1W	+	+	+	+
3055	482205130102	1K00 5% 0,062W	+	+	+	+
3056	482205130102	1K00 5% 0,062W	+	+	+	+
3057	482205120472	4K70 5% 0,1W	+	+	+	+
3058	482205120154	150K00 5% 0,1W	+	+	+	+
3059	482205130682	6K80 5% 0,062W	+	+	+	+
3060	482205130103	10K00 5% 0,062W	+	+	+	+
3061	482205130102	1K00 5% 0,062W	+	+	+	+
3063	482211713572	22R 5% 1206	+	+	+	+
3064	482205130221	220R00 5% 0,062W	+	+	+	+
3065	482205120393	39K00 5% 0,1W	+	+	+	+
3066	482211712367	33K 1% 0.10W	+	+	+	+
3067	482205130102	1K00 5% 0,062W	+	+	+	+
3068	482205120472	4K70 5% 0,1W	+	+	+	+
3069	482205120392	3K90 5% 0,1W	+	+	+	+
3070	482205110102	1K00 2% 0,25W	+	+	+	+
3071	482205130222	2K20 5% 0,062W	+	+	+	+
3072	482205120472	4K70 5% 0,1W	+	+	+	+
3073	482205120472	4K70 5% 0,1W	+	+	+	+
3074	482211711151	1R 5%	+	+	+	+
3075	482205120154	150K00 5% 0,1W	+	+	+	+
3076	482205120154	150K00 5% 0,1W	+	+	+	+
3077	482205120154	150K00 5% 0,1W	+	+	+	+
3078	482205130102	1K00 5% 0,062W	+	+	+	+
3079	482211711751	16K RC12H 1% 0805	+	+	+	+
3081	482205110102	1K00 2% 0,25W	+	+	+	+
3082	482205130102	1K00 5% 0,062W	+	+	+	+
3085	482211713568	6R8 5% 1206	+	+	+	+
3086	482211711503	220R 1% 0.1W	+	+	+	+
3087	482205130222	2K20 5% 0,062W	+	+	+	+
3088	482205130152	1K50 5% 0,062W	+	+	+	+
3090	482205130479	47R00 5% 0,062W	+	+	+	+
3091	482211712903	1K8 1% 0.063W 0603	+	+	+	+
3092	482205130103	10K00 5% 0,062W	+	+	+	+
3094	482205130221	220R00 5% 0,062W	+	+	+	+
3095	482211713568	6R8 5% 1206	+	+	+	+
3097	482205130479	47R00 5% 0,062W	+	+	+	+
3098	482205130103	10K00 5% 0,062W	+	+	+	+
3100	482205120472	4K70 5% 0,1W	+	+	+	+
3101	482211713572	22R 5% 1206	+	+	+	+
3102	482211711148	56K 1% 0,1W	+	+	+	+
3103	482211710833	10K 1% 0,1W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3104	482211710833	10K 1% 0,1W	+	+	+	+
3105	482205120182	1K80 5% 0,1W	+	+	+	+
3106	482205130008	0R00 JUMPER	+	+	+	+
3107	482205130008	0R00 JUMPER	+	+	+	+
3110	482205130103	10K00 5% 0,062W	+	+	+	+
3111	482211712902	8K2 1% 0.063W 0603	+	+	+	+
3112	482205130479	47R00 5% 0,062W	+	+	+	+
3113	482211711503	220R 1% 0.1W	+	+	+	+
3114	482211713577	330R 1% RC12H 0805 1,25W	+	+	+	+
3115	482211712521	68R 1% 0,1W	+	+	+	+
3116	482211711817	1K2 1% 1/16W	+	+	+	+
3117	482205130103	10K00 5% 0,062W	+	+	+	+
3118	482205130561	560R00 5% 0,062W	+	+	+	+
3119	482205130221	220R00 5% 0,062W	+	+	+	+
3120	532211711726	10R 5%	+	+	+	+
3123	482205130472	4K70 5% 0,062W	+	+	+	+
3126	482205130682	6K80 5% 0,062W	+	+	+	+
3127	482211712903	1K8 1% 0.063W 0603	+	+	+	+
3128	482205130479	47R00 5% 0,062W	+	+	+	+
3129	482205130102	1K00 5% 0,062W	+	+	+	+
3130	482205130103	10K00 5% 0,062W	+	+	+	+
3131	482205130103	10K00 5% 0,062W	+	+	+	+
3200	482205120479	47R00 5% 0,1W	+	+	+	+
3201	482205120479	47R00 5% 0,1W	+	+	+	+
3202	482205120479	47R00 5% 0,1W	+	+	+	+
3203	482205120479	47R00 5% 0,1W	+	+	+	+
3204	482205120479	47R00 5% 0,1W	+	+	+	+
3205	482205120479	47R00 5% 0,1W	+	+	+	+
3206	482205120479	47R00 5% 0,1W	+	+	+	+
3207	482205120479	47R00 5% 0,1W	+	+	+	+
3208	482211710833	10K 1% 0,1W	+	+	+	+
3209	482215771206	BLM21A601SPT	+	+	+	+
3210	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3211	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3212	482211711503	220R 1% 0.1W	+	+	+	+
3213	482205130008	0R00 JUMPER	+	+	+	+
3215	482205130153	15K00 5% 0,062W	+	+	+	+
3216	482205130153	15K00 5% 0,062W	+	+	+	+
3217	482211712925	47K 1% 0.063W 0603	+	+	+	+
3218	482205130103	10K00 5% 0,062W	+	+	+	+
3219	482205130223	22K00 5% 0,062W	+	+	+	+
3220	482205130103	10K00 5% 0,062W	+	+	+	+
3221	482205130223	22K00 5% 0,062W	+	+	+	+
3222	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3223	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3224	482211711374	120K 1% RC12H 0805	+	+	+	+
3225	482211712367	33K 1% 0.10W	+	+	+	+
3226	482211710833	10K 1% 0,1W	+	+	+	+
3227	482211712367	33K 1% 0.10W	+	+	+	+
3228	482211710833	10K 1% 0,1W	+	+	+	+
3229	482211711374	120K 1% RC12H 0805	+	+	+	+
3230	482211713632	100K 1% 0603 0.62W	+	+	+	+
3231	482211713632	100K 1% 0603 0.62W	+	+	+	+
3232	482211710833	10K 1% 0,1W	+	+	+	+
3233	482205120101	100R00 5% 0,1W	+	+	+	+
3234	482205110102	1K00 2% 0,25W	+	+	+	+
3235	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3237	482205130562	5K6 5% 0,063W 0603 RC21 RST SM	+	+	+	+
3238	482205130221	220R00 5% 0,062W	+	+	+	+
3239	482205130102	1K00 5% 0,062W	+	+	+	+
3240	482205130103	10K00 5% 0,062W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3241	482205130008	0R00 JUMPER	+	+	+	+
3242	235003510103	RST NETW SM ARV24 4X10K PM5 R	+	+	+	+
3243	235003510103	RST NETW SM ARV24 4X10K PM5 R	+	+	+	+
3244	482205130008	0R00 JUMPER	+	+	+	+
3245	482205130221	220R00 5% 0,062W	+	+	+	+
3246	482205130221	220R00 5% 0,062W	+	+	+	+
3248	482211713523	220R 5% RESN 0.63W	+	+	+	+
3249	482211711503	220R 1% 0.1W	+	+	+	+
3252	482211711145	4K70 1% 0,1W	+	+	+	+
3253	482211711145	4K70 1% 0,1W	+	+	+	+
3254	482205130008	0R00 JUMPER	+	+	+	+
3255	482211710833	10K 1% 0,1W	+	+	+	+
3256	482205130008	0R00 JUMPER	+	+	+	+
3260	482205130008	0R00 JUMPER	+	+	+	+
3261	482205130222	2K20 5% 0,062W	+	+	+	+
3265	482205130008	0R00 JUMPER	+	+	+	+
3271	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3273	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3274	482211710837	100K 1% 0.1W	+	+	+	+
3276	482205130479	47R00 5% 0,062W	+	+	+	+
3280	482205130479	47R00 5% 0,062W	+	+	+	+
3281	482211713579	220K 1% 0.1W RC12H 0805	+	+	+	+
3284	482211711151	1R 5%	+	+	+	+
3286	482205130223	22K00 5% 0,062W	+	+	+	+
3287	482205130103	10K00 5% 0,062W	+	+	+	+
3288	482205130563	56K00 5% 0,062W	+	+	+	+
3289	482205130563	56K00 5% 0,062W	+	+	+	+
3290	482205130683	68K00 5% 0,062W	+	+	+	+
3291	482205130563	56K00 5% 0,062W	+	+	+	+
3295	482205130332	3K30 5% 0,062W	+	+	+	+
3297	482205130332	3K30 5% 0,062W	+	+	+	+
3299	482205130332	3K30 5% 0,062W	+	+	+	+
3300	482205110102	1K00 2% 0,25W	+	+	+	+
3301	482205110102	1K00 2% 0,25W	+	+	+	+
3303	482211713572	22R 5% 1206	+	+	+	+
3305	482211710833	10K 1% 0,1W	+	+	+	+
3308	482205120008	0R00 JUMP. (0805)	+	+	+	+
3309	482211712367	33K 1% 0.10W	+	+	+	+
3312	482205130479	47R00 5% 0,062W	+	+	+	+
3313	482205130479	47R00 5% 0,062W	+	+	+	+
3314	482205120479	47R00 5% 0,1W	+	+	+	+
3315	482205130102	1K00 5% 0,062W	+	+	+	+
3316	482205120472	4K70 5% 0,1W	+	+	+	+
3317	482205120472	4K70 5% 0,1W	+	+	+	+
3319	482205120479	47R00 5% 0,1W	+	+	+	+
3322	482205130102	1K00 5% 0,062W	+	+	+	+
3323	482205130562	5K6 5% 0,063W 0603 RC21 RST SM	+	+	+	+
3324	482205130562	5K6 5% 0,063W 0603 RC21 RST SM	+	+	+	+
3325	482205130103	10K00 5% 0,062W	+	+	+	+
3333	482211713574	1R5 5% 1206	+	+	+	+
3334	482211713574	1R5 5% 1206	+	+	+	+
3335	482211713574	1R5 5% 1206	+	+	+	+
3337	482205130563	56K00 5% 0,062W	+	+	+	+
3338	532211712487	1K RC12G 1% 0,125W	+	+	+	+
3339	532211712487	1K RC12G 1% 0,125W	+	+	+	+
3340	482211713632	100K 1% 0603 0.62W	+	+	+	+
3341	232273468209	RST SM 0805 RC12H 82R PM1	+	+	+	+
3346	482211711507	6K8 1% 0,1W	+	+	+	+
3347	482211711507	6K8 1% 0,1W	+	+	+	+
3348	482211711507	6K8 1% 0,1W	+	+	+	+
3349	482211713632	100K 1% 0603 0.62W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3350	232273468209	RST SM 0805 RC12H 82R PM1	+	+	+	+
3351	482211711151	1R 5%	+	+	+	+
3352	482205130008	0R00 JUMPER	+	+	+	+
3360	482211710354	22K 1% 0,1W	+	+	+	+
3361	482211712139	22R 5% 0,062W	+	+	+	+
3362	482211712708	39K 1% 0,1W 0805 RC12G	+	+	+	+
3363	482211712968	820R 5% 0,62W	+	+	+	+
3365	482205130101	100R00 5% 0,062W	+	+	+	+
3368	482205130479	47R00 5% 0,062W	+	+	+	+
3370	482205130561	560R00 5% 0,062W	+	+	+	+
3371	482205130152	1K50 5% 0,062W	+	+	+	+
3372	482205120122	1K20 5% 0,1W	+	+	+	+
3373	482211712903	1K8 1% 0.063W 0603	+	+	+	+
3374	482211713572	22R 5% 1206	+	+	+	+
3375	482205130222	2K20 5% 0,062W	+	+	+	+
3376	482205130221	220R00 5% 0,062W	+	+	+	+
3377	482205130479	47R00 5% 0,062W	+	+	+	+
3378	482205130273	27K00 5% 0,062W	+	+	+	+
3379	482205130183	18K00 5% 0,062W	+	+	+	+
3381	482205120008	0R00 JUMP. (0805)	+	+	+	+
3382	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3402	482211711503	220R 1% 0.1W	+	+	+	-
3403	482211712024	27K 1% 0.1W	+	+	+	-
3404	482211710833	10K 1% 0,1W	+	+	+	-
3405	482211712024	27K 1% 0.1W	+	+	+	-
3407	482205120101	100R00 5% 0,1W	+	+	+	-
3408	482211710833	10K 1% 0,1W	+	+	+	-
3409	482211712367	33K 1% 0.10W	+	+	+	-
3410	482211710833	10K 1% 0,1W	+	+	+	-
3411	482211711152	4R7 5%	+	+	+	-
3412	482211712024	27K 1% 0.1W	+	+	+	-
3413	482211710833	10K 1% 0,1W	+	+	+	-
3414	482211712024	27K 1% 0.1W	+	+	+	-
3415	482211710833	10K 1% 0,1W	+	+	+	-
3416	482211712367	33K 1% 0.10W	+	+	+	-
3418	482205120008	0R00 JUMP. (0805)	+	+	+	-
3420	482211710833	10K 1% 0,1W	+	+	+	-
3421	482211711383	12K 1% 0,1W	+	+	+	-
3422	482211710834	47K 1% 0,1W	+	+	+	-
3423	482211713629	120R 1% 0.1W RC12H 0805	+	-	+	-
3424	482205120225	2M20 5% 0,1W	+	-	+	-
3427	482211713629	120R 1% 0.1W RC12H 0805	+	-	+	-
3428	482205120225	2M20 5% 0,1W	+	-	+	-
3429	482211710834	47K 1% 0,1W	+	+	+	-
3432	482211710833	10K 1% 0,1W	+	+	+	-
3433	482205120008	0R00 JUMP. (0805)	+	+	+	-
3435	482211710833	10K 1% 0,1W	+	+	+	-
3436	482211711383	12K 1% 0,1W	+	+	+	-
3439	482211711152	4R7 5%	+	+	+	-
3441	482205120101	100R00 5% 0,1W	+	+	+	-
3447	482205120008	0R00 JUMP. (0805)	-	+	+	-
3448	482205120008	0R00 JUMP. (0805)	-	+	+	-
3449	482205120008	0R00 JUMP. (0805)	-	+	+	-
3450	319802153311	330R 5%	+	-	-	-
3451	482211711383	12K 1% 0,1W	+	+	+	-
3452	482211711383	12K 1% 0,1W	+	+	+	-
3453	482211713579	220K 1% 0.1W RC12H 0805	+	+	+	-
3454	482211713579	220K 1% 0.1W RC12H 0805	+	+	+	-
3455	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	-
3460	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	-
3531	482205120562	5K6 5% 0,1W 0805	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3532	482205120562	5K6 5% 0,1W 0805	+	+	+	+
3533	482211710837	100K 1% 0.1W	+	+	+	+
3536	482211710837	100K 1% 0.1W	+	+	+	+
3537	482211710833	10K 1% 0,1W	+	+	+	+
3538	482211710833	10K 1% 0,1W	+	+	+	+
3539	482211710837	100K 1% 0.1W	+	+	+	+
3540	482211710833	10K 1% 0,1W	+	+	+	+
3541	482211711747	12R 1206 5% FUSE	+	+	+	+
3542	482211711747	12R 1206 5% FUSE	+	+	+	+
3544	482211710834	47K 1% 0,1W	+	+	+	+
3545	482211713568	6R8 5% 1206	+	+	+	+
3546	482205120101	100R00 5% 0,1W	+	+	+	+
3547	482211683933	15K 1% 0,1W	+	+	+	+
3548	482211710834	47K 1% 0,1W	+	+	+	+
3549	482205120101	100R00 5% 0,1W	+	+	+	+
3550	482205120101	100R00 5% 0,1W	+	+	+	+
3551	482205120332	3K30 5% 0,1W	+	+	+	+
3552	482211710834	47K 1% 0,1W	+	+	+	+
3553	482205120101	100R00 5% 0,1W	+	+	+	+
3554	482211710833	10K 1% 0,1W	+	+	+	+
3555	482205120122	1K20 5% 0,1W	+	+	+	+
3556	482211710833	10K 1% 0,1W	+	+	+	+
3557	482211710837	100K 1% 0.1W	+	+	+	+
3559	482205120562	5K6 5% 0,1W 0805	+	+	+	+
3560	482211710837	100K 1% 0.1W	+	+	+	+
3562	482205120562	5K6 5% 0,1W 0805	+	+	+	+
3563	482205130563	56K00 5% 0,062W	+	+	+	+
3566	482211710837	100K 1% 0.1W	+	+	+	+
3567	482205120223	22K00 5% 0,1W	+	+	+	+
3570	482205120101	100R00 5% 0,1W	+	+	+	+
3701	482205120101	100R00 5% 0,1W	+	+	+	+
3702	482205130472	4K70 5% 0,062W	+	+	+	+
3703	482205130472	4K70 5% 0,062W	+	+	+	+
3704	482205120008	0R00 JUMP. (0805)	+	+	+	+
3705	482205130223	22K00 5% 0,062W	+	+	+	+
3706	482205120479	47R00 5% 0,1W	+	+	+	+
3708	482205120479	47R00 5% 0,1W	+	+	+	+
3710	482205130101	100R00 5% 0,062W	+	+	+	+
3711	482211710833	10K 1% 0,1W	+	+	+	+
3712	482211710833	10K 1% 0,1W	+	+	+	+
3713	482205120479	47R00 5% 0,1W	+	+	+	+
3714	482205120479	47R00 5% 0,1W	+	+	+	+
3715	482205120479	47R00 5% 0,1W	+	+	+	+
3716	482211710833	10K 1% 0,1W	+	+	+	+
3717	482211710833	10K 1% 0,1W	-	+	+	+
3718	482211710833	10K 1% 0,1W	+	+	+	-
3719	482205130103	10K00 5% 0,062W	+	+	-	+
3720	482205130101	100R00 5% 0,062W	+	+	+	+
3721	482205130101	100R00 5% 0,062W	+	+	+	+
3722	482211710833	10K 1% 0,1W	+	-	-	-
3723	482211710833	10K 1% 0,1W	-	-	-	+
3724	482205130103	10K00 5% 0,062W	+	-	+	-
3725	482205130101	100R00 5% 0,062W	+	+	+	+
3726	482205130103	10K00 5% 0,062W	+	+	+	+
3727	482205120105	1M00 5% 0,1W	+	+	+	+
3728	482205130101	100R00 5% 0,062W	+	+	+	+
3729	482205130101	100R00 5% 0,062W	+	+	+	+
3731	482205130391	390R00 5% 0,062W	+	+	+	+
3732	482205130479	47R00 5% 0,062W	+	+	+	+
3735	482205120479	47R00 5% 0,1W	+	+	+	+
3742	482205130102	1K00 5% 0,062W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3743	482205130479	47R00 5% 0,062W	+	+	+	+
3744	482205120274	270K00 5% 0,1W	+	+	+	+
3745	482205120274	270K00 5% 0,1W	+	+	+	+
3746	482205130153	15K00 5% 0,062W	+	+	+	+
3747	482205130103	10K00 5% 0,062W	+	+	+	+
3748	482205130103	10K00 5% 0,062W	+	+	+	+
3749	482205130103	10K00 5% 0,062W	+	+	+	+
3750	482205130123	12K00 5% 0,062W	+	+	+	+
3751	482205120472	4K70 5% 0,1W	+	-	-	-
3752	482211710353	150R 1% 0,1W	+	+	+	+
3753	482205120472	4K70 5% 0,1W	+	-	-	-
3754	482205110102	1K00 2% 0,25W	+	+	+	+
3755	482211710353	150R 1% 0,1W	+	+	+	+
3756	482205130101	100R00 5% 0,062W	+	+	+	+
3757	482205120479	47R00 5% 0,1W	+	-	-	-
3758	482205120101	100R00 5% 0,1W	+	+	+	+
3759	482205110102	1K00 2% 0,25W	+	+	+	+
3760	482205120472	4K70 5% 0,1W	+	+	+	+
3761	482205130472	4K70 5% 0,062W	+	+	+	+
3762	482205130472	4K70 5% 0,062W	+	+	+	+
3763	482205130102	1K00 5% 0,062W	+	+	+	+
3764	482205120472	4K70 5% 0,1W	+	+	+	+
3766	482205130472	4K70 5% 0,062W	+	+	+	+
3767	482205130472	4K70 5% 0,062W	+	+	+	+
3768	482205120472	4K70 5% 0,1W	+	+	+	+
3769	482205130472	4K70 5% 0,062W	+	+	+	+
3770	482205120472	4K70 5% 0,1W	+	+	+	+
3771	482205130101	100R00 5% 0,062W	+	+	+	+
3780	482211710837	100K 1% 0.1W	+	+	+	+
3806	482205130103	10K00 5% 0,062W	+	+	+	+
3807	482205120008	0R00 JUMP. (0805)	+	+	+	+
3808	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3809	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3810	482205130472	4K70 5% 0,062W	+	+	+	+
3811	482205130103	10K00 5% 0,062W	+	+	+	+
3813	482205130101	100R00 5% 0,062W	+	+	+	+
3814	482205130479	47R00 5% 0,062W	+	+	+	+
3817	482205110102	1K00 2% 0,25W	+	+	+	+
3818	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3819	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3820	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3821	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3822	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3823	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3824	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3825	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3826	482205120101	100R00 5% 0,1W	+	+	+	+
3828	482205130479	47R00 5% 0,062W	+	-	-	-
3829	482205130479	47R00 5% 0,062W	+	-	-	-
3830	482205130479	47R00 5% 0,062W	+	-	-	-
3831	482205130479	47R00 5% 0,062W	+	-	-	-
3832	482205130479	47R00 5% 0,062W	+	-	-	-
3833	482205130479	47R00 5% 0,062W	+	-	-	-
3834	482205130479	47R00 5% 0,062W	+	-	-	-
3835	482205130479	47R00 5% 0,062W	+	-	-	-
3836	482205130479	47R00 5% 0,062W	+	-	-	-
3837	482211710833	10K 1% 0,1W	+	+	+	+
3838	482211710833	10K 1% 0,1W	+	+	+	+
3841	482205120101	100R00 5% 0,1W	+	+	+	+
3843	482211710833	10K 1% 0,1W	+	+	+	+
3844	482211710833	10K 1% 0,1W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3845	482211710833	10K 1% 0,1W	+	+	+	+
3886	482205120008	0R00 JUMP. (0805)	-	+	+	-
3889	482211711151	1R 5%	+	+	+	+
3891	482211710833	10K 1% 0,1W	+	+	+	-
3892	482211710833	10K 1% 0,1W	+	+	+	-
3894	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3897	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3898	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3900	319802190030	RST JUMPER 0603 0.05 OHM	-	-	-	+
3902	319802190030	RST JUMPER 0603 0.05 OHM	-	-	-	+
3903	482205130008	0R00 JUMPER	+	+	+	+
3904	482205110102	1K00 2% 0,25W	-	+	-	+
3906	482205120472	4K70 5% 0,1W	+	+	+	+
3907	482205130472	4K70 5% 0,062W	+	+	+	+
3908	482205130102	1K00 5% 0,062W	+	+	+	+
3909	482205130472	4K70 5% 0,062W	+	+	+	+
3910	482205120472	4K70 5% 0,1W	+	+	+	+
3911	482205120472	4K70 5% 0,1W	+	+	+	+
5008	482215771206	BLM21A601SPT	+	+	+	+
5201	482215771206	BLM21A601SPT	+	+	+	+
5202	482215771206	BLM21A601SPT	+	+	+	+
5203	482215771206	BLM21A601SPT	+	+	+	+
5301	482215771206	BLM21A601SPT	+	+	+	+
5302	482215771206	BLM21A601SPT	+	+	+	+
5303	482215771206	BLM21A601SPT	+	+	+	+
5401	482215771206	BLM21A601SPT	+	+	+	-
5403	482215771206	BLM21A601SPT	+	+	+	-
5404	482215771206	BLM21A601SPT	+	+	+	-
5406	482215771206	BLM21A601SPT	+	+	+	-
5407	482215771206	BLM21A601SPT	+	+	+	-
5413	482215771206	BLM21A601SPT	+	+	+	-
5414	482215771206	BLM21A601SPT	+	+	+	-
5500	482215711716	BLM21P300SPT	+	+	+	+
5501	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5502	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5503	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5541	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5542	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5543	482215711716	BLM21P300SPT	+	+	+	+
5544	482215711716	BLM21P300SPT	+	+	+	+
5546	482215771206	BLM21A601SPT	+	+	+	+
5551	482215771206	BLM21A601SPT	+	+	+	+
5554	482215710548	47UH 5%	+	+	+	+
5555	482215771206	BLM21A601SPT	+	+	+	+
5556	482215771206	BLM21A601SPT	+	+	+	+
5557	482215771206	BLM21A601SPT	+	+	+	+
5701	482215771206	BLM21A601SPT	+	+	+	+
5709	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5710	482215710477	COIL 47UH	+	+	+	+
5712	482215771206	BLM21A601SPT	+	+	+	+
5713	482215771206	BLM21A601SPT	+	+	+	+
5715	482215771206	BLM21A601SPT	+	+	+	+
5716	482215771206	BLM21A601SPT	+	+	+	+
6002	532213030691	BAW56	+	+	+	+
6003	482213083757	BAS216	+	+	+	+
6007	532213034337	BAV99	+	+	+	+
6373	482213083757	BAS216	+	+	+	+
6374	482213083757	BAS216	+	+	+	+
6375	482213083757	BAS216	+	+	+	+
6400	482213010648	BZX284-C5V6	+	-	-	-
6500	532213083777	BAV70W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
6501	532213034337	BAV99	+	+	+	+
6502	482213034441	BZX79-B22	+	+	+	+
6553	482213083757	BAS216	+	+	+	+
6554	532213034337	BAV99	+	+	+	+
6555	482213083757	BAS216	+	+	+	+
6556	482213083757	BAS216	+	+	+	+
6557	482213083757	BAS216	+	+	+	+
6701	934042250135	DIO VAR SM BB147 (PHSE) R	+	+	+	+
6702	934042250135	DIO VAR SM BB147 (PHSE) R	+	+	+	+
7001	482220963709	LM324DTR	+	+	+	+
7002	482220963709	LM324DTR	+	+	+	+
7005	482220990331	TL084CDT	+	+	+	+
7008	482220917223	EFM TIM3	+	+	+	+
7010	935261972518	IC SM TZA1020HP/M1 (PHSE) R	+	+	+	+
7016	482220917225	M62364FP	+	+	+	+
7050	482220990331	TL084CDT	+	+	+	+
7104	482213060373	BC856B	+	+	+	+
7110	482213060511	BC847B	+	+	+	+
7111	482213060511	BC847B	+	+	+	+
7112	482213042804	BC817-25	+	+	+	+
7113	482213060511	BC847B	+	+	+	+
7119	482213060383	BF824	+	+	+	+
7120	482213060383	BF824	+	+	+	+
7121	532213060123	BC807-40	+	+	+	+
7122	532213060123	BC807-40	+	+	+	+
7124	482213060511	BC847B	+	+	+	+
7126	933714420653	IC SM 74HC4066D	+	+	+	+
7127	482213060373	BC856B	+	+	+	+
7133	482213060511	BC847B	+	+	+	+
7135	532213060123	BC807-40	+	+	+	+
7201	482213060511	BC847B	+	+	+	+
7202	482213060511	BC847B	+	+	+	+
7207	932213040668	IC SM M24C16-WMN (ST00) R	+	+	+	+
7208	310412394850	FLASH EPROM ASSY CDR-AUDIO	+	+	+	+
7209	482220917227	MC74LCX573	+	+	+	+
7215	482220932073	MC34072D	+	+	+	+
7225	532220971553	NE532D	+	+	+	+
7240	482220917229	BA5938FM	+	+	+	+
7270	482220917231	SAA7399HL	+	+	+	+
7300	935263368557	IC SM SAA7392HL/M3 (PHSE) Y	+	+	+	+
7330	482220916877	BA6856FP	+	+	+	+
7355	933713370653	IC SM 74HCT00D (PHSE) R	+	+	+	+
7360	933715300118	IC SM 74HCT4051D (PHSE) R	+	+	+	+
7361	482213060511	BC847B	+	+	+	+
7370	482213060511	BC847B	+	+	+	+
7371	482213011527	BFS540	+	+	+	+
7373	482213011527	BFS540	+	+	+	+
7375	482213011527	BFS540	+	+	+	+
7401	482220960792	74HC4053D	+	-	-	-
7405	482220930095	LM833D	+	+	+	-
7406	935254530118	IC SM UDA1341TS/N1 (PHSE) R	+	+	+	-
7407	482220960792	74HC4053D	+	-	-	-
7408	482220982362	NJM4556D	+	-	+	-
7409	482220930095	LM833D	+	+	+	-
7410	482213042804	BC817-25	+	-	+	-
7411	482213042804	BC817-25	+	-	+	-
7520	820405604480	FET POW STD16NE06L	+	+	+	+
7521	482220932073	MC34072D	+	+	+	+
7522	482213060373	BC856B	+	+	+	+
7523	482213060511	BC847B	+	+	+	+
7524	482213060511	BC847B	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
7525	482213060373	BC856B	+	+	+	+
7526	482213060511	BC847B	+	+	+	+
7527	482213011379	BCP69	+	+	+	+
7528	482213060511	BC847B	+	+	+	+
7529	482213060373	BC856B	+	+	+	+
7535	482220917398	LD1117DT33	+	+	+	+
7548	482213060511	BC847B	+	+	+	+
7549	482213060511	BC847B	+	+	+	+
7556	482220990332	MC79L05ABD	+	+	+	+
7558	482220915083	AN78M09	+	+	+	+
7560	482213060373	BC856B	+	+	+	+
7561	482213060373	BC856B	+	+	+	+
7562	482213060511	BC847B	+	+	+	+
7563	482213060511	BC847B	+	+	+	+
7701	820405603460	USER PROCESSOR DASP CF5244PU	+	+	+	+
7702	482220917375	GM71V18163CJ-6	+	+	+	+
7703	932213814668	IC SM AM29LV800BB-70REC (AMD)R	+	+	+	+
7704	482220916318	MC33464-30A	+	+	+	+
7705	482220932073	MC34072D	+	+	+	+
7706	482220917236	74LV74D	+	+	+	+
7707	482213060511	BC847B	+	-	-	-
7708	932214178668	IC SM 74LCX00M (ST00) R	+	+	+	+
7710	932213967685	IC SM MC33464N-45A (MOTA) R	+	+	+	+
7801	820405603520	LEVEL DIG POTMETER DS1807S-T/R	+	+	+	-
7802	820405603910	IC SM CY7C199-15ZC	+	+	+	+
7803	482213060511	BC847B	+	+	+	+
7804	482213060511	BC847B	+	+	+	+
PCINT-DASP	710408691110	PC-INTERFACE BOARD DASP	+	+	+	+
PCINT-MACE	710408683110	PC-INTERFACE BOARD MACE	+	+	+	+

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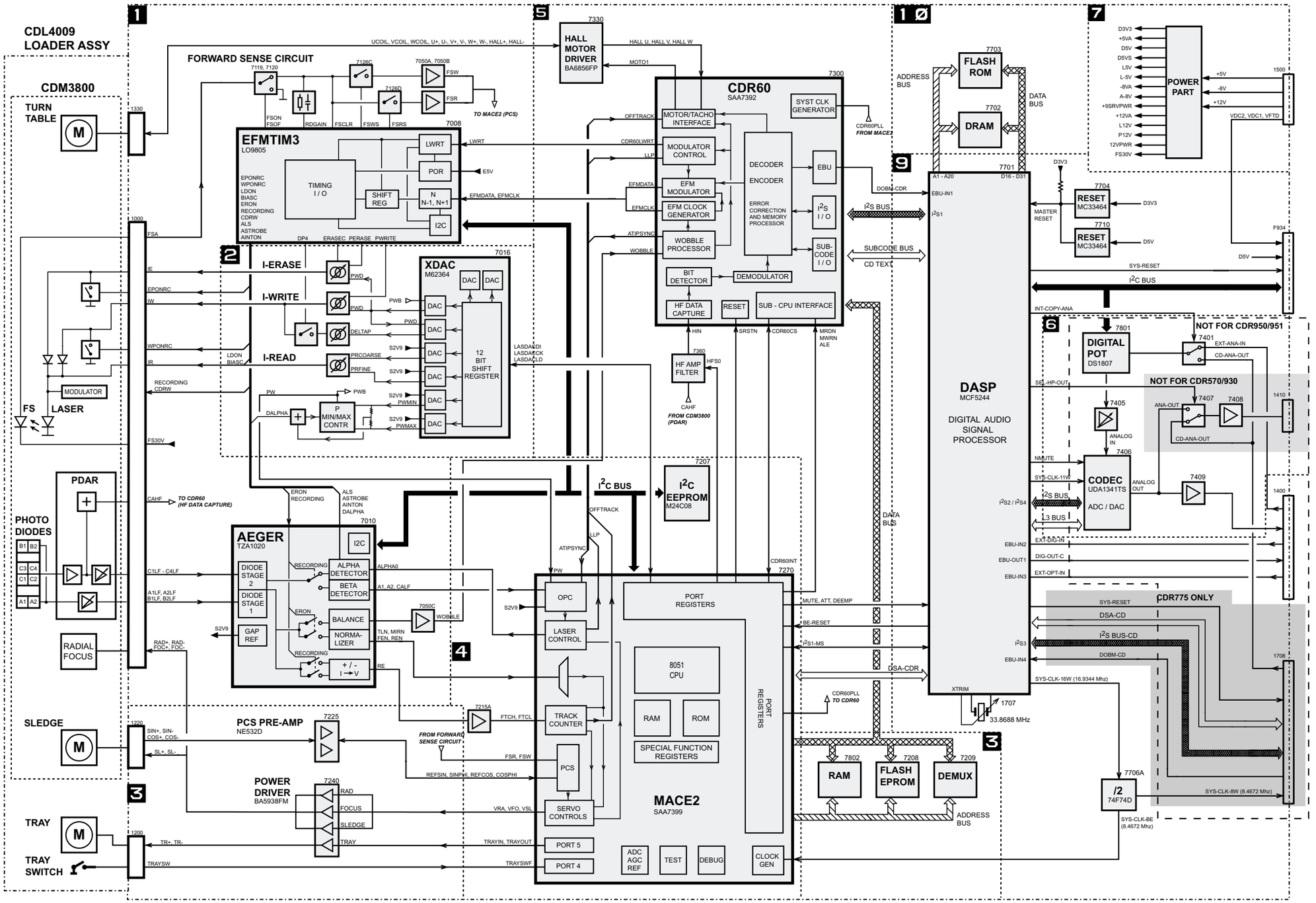
6. Block diagrams

CDR MAIN BOARD BLOCK DIAGRAM



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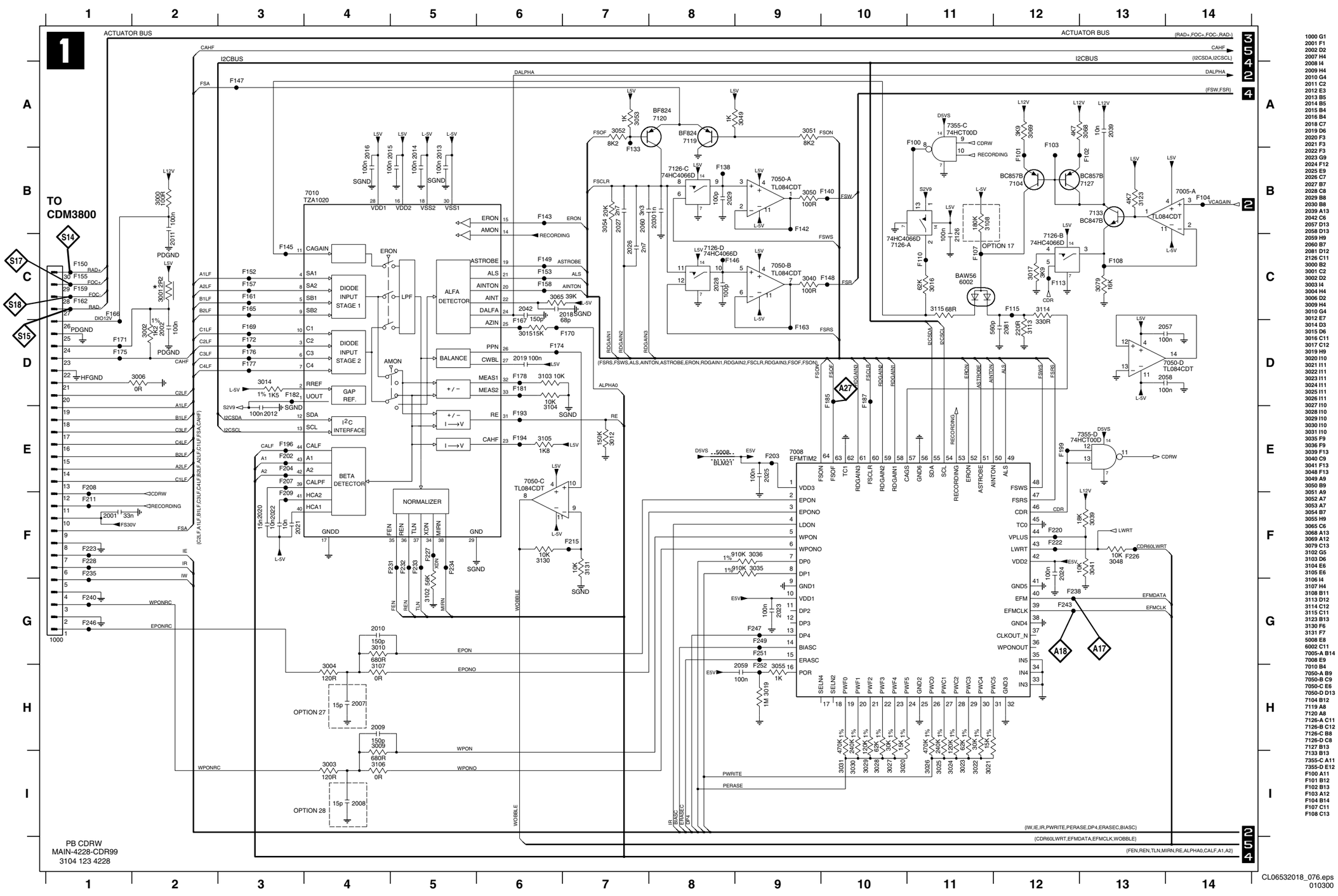
7. Electrical diagrams and PWB's

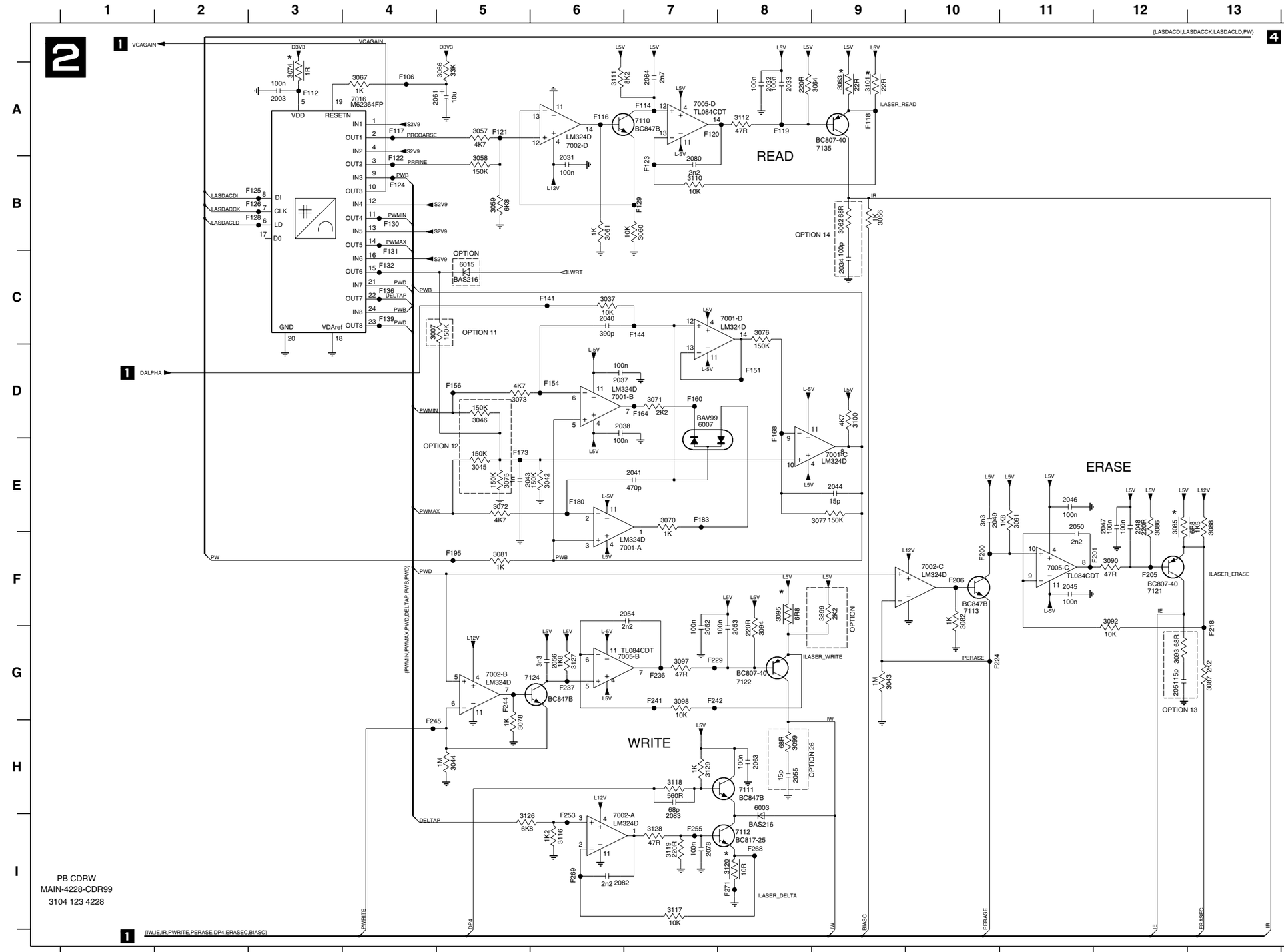
CDR-Mainboard Version 4228.5

CDR MAIN BOARD - CIRCUIT DIAGRAM 1 : AEGER, EFMTIM, FORWARD SENSE CIRCUIT TESTPOINTS



1000 G1
2001 F1
2002 D2
2007 H4
2008 I4
2009 H4
2010 G4
2011 C2
2012 E3
2013 B5
2014 B5
2015 B4
2016 B4
2018 C7
2019 D6
2020 F3
2021 F3
2022 F3
2023 G9
2024 F12
2025 E9
2026 C7
2027 B7
2028 C8
2029 B8
2030 B8
2039 A13
2042 C6
2057 D13
2058 D13
2059 H9
2060 B7
2081 D12
2126 C11
3000 B2
3001 C2
3002 D2
3003 I4
3004 H4
3006 D2
3009 H4
3010 G4
3012 E7
3014 D3
3015 D6
3016 C11
3017 C12
3019 H9
3020 I10
3021 I11
3022 I11
3023 I11
3024 I11
3025 I11
3026 I11
3027 I10
3028 I10
3029 I10
3030 I10
3031 I10
3035 F9
3036 F9
3039 F13
3040 C9
3041 F13
3048 F13
3049 A9
3050 B9
3051 A9
3052 A7
3053 A7
3054 B7
3055 H9
3065 C6
3068 A13
3069 A12
3079 C13
3102 G5
3103 D6
3104 E6
3105 E6
3106 I4
3107 H4
3108 B11
3113 D12
3114 C12
3115 C11
3123 B13
3130 F6
3131 F7
5008 E8
6002 C11
7005-A B14
7008 E9
7010 B4
7050-A B9
7050-B C9
7050-C E6
7050-D D13
7104 B12
7119 A8
7120 A8
7126-A C11
7126-B C12
7126-C B8
7126-D C8
7127 B13
7133 B13
7355-C A11
7355-D E12
F100 A11
F101 B12
F102 B13
F103 A12
F104 B14
F107 C11
F108 C13
F110 C11
F113 C12
F115 C12
F133 B7
F138 B8
F140 B10
F142 B9
F143 B6
F145 C3
F146 C8
F147 A3
F148 C10
F149 C6
F150 C1
F152 C3
F153 C6
F155 C1
F157 C3
F158 C6
F159 C1
F161 C3
F162 C1
F163 D9
F165 C3
F166 C1
F167 D6
F169 D3
F170 D7
F171 D1
F172 D3
F174 D6
F175 D1
F176 D3
F177 D3
F178 D6
F181 D6
F182 D3
F185 D10
F187 D10
F193 E6
F194 E6
F196 E3
F199 E12
F202 E3
F203 E9
F204 E3
F207 E3
F208 E1
F209 F3
F211 F1
F215 F7
F220 F12
F222 F12
F223 F1
F226 F13
F227 F5
F228 F1
F231 F4
F232 F5
F233 F5
F234 F5
F235 F1
F238 G12
F240 G1
F243 G12
F246 G1
F247 G9
F249 G9
F251 G9
F252 H9

CDR MAIN BOARD - CIRCUIT DIAGRAM 2 : XDAC, LASER DRIVE CURRENT CIRCUITS



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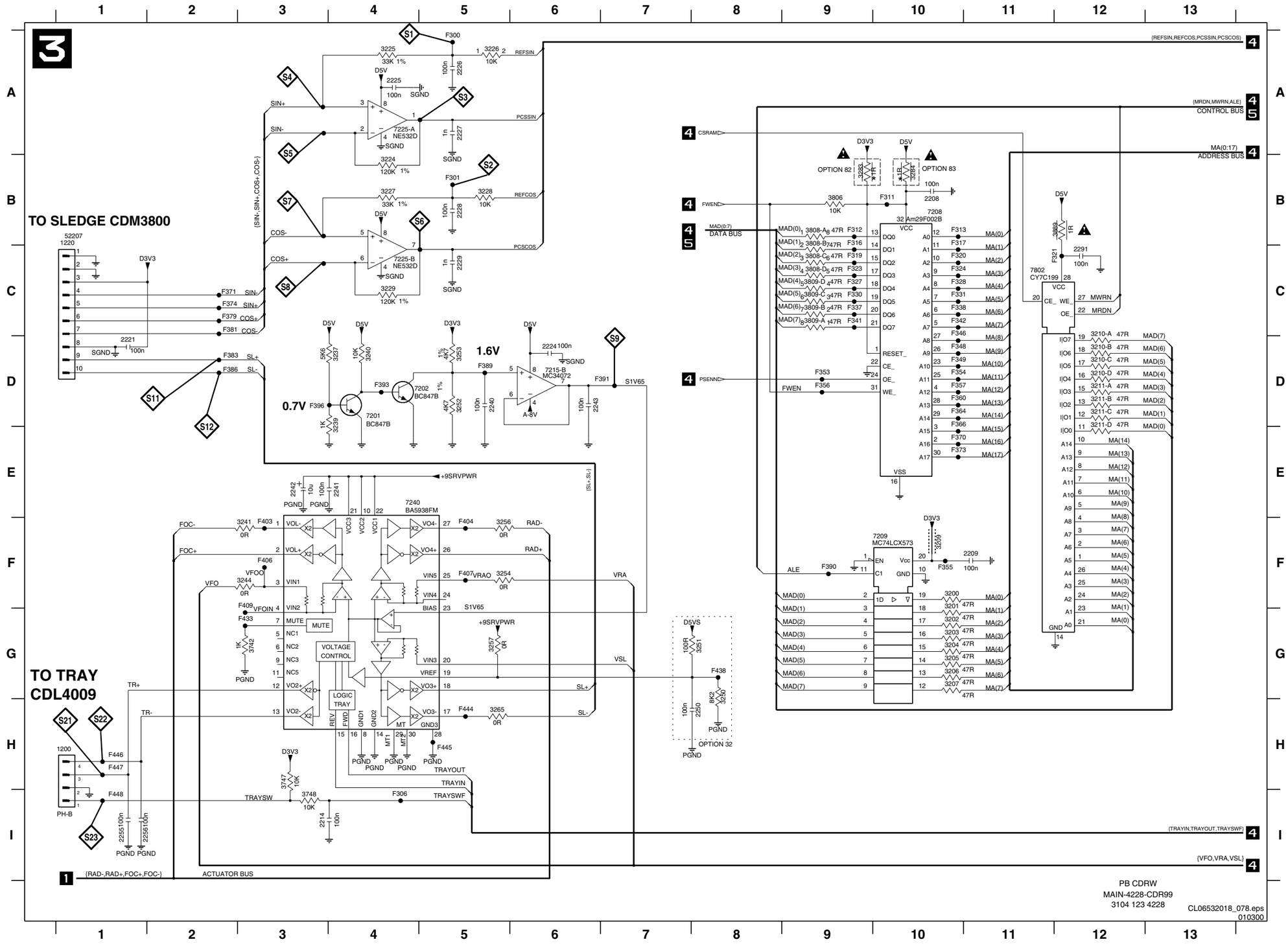
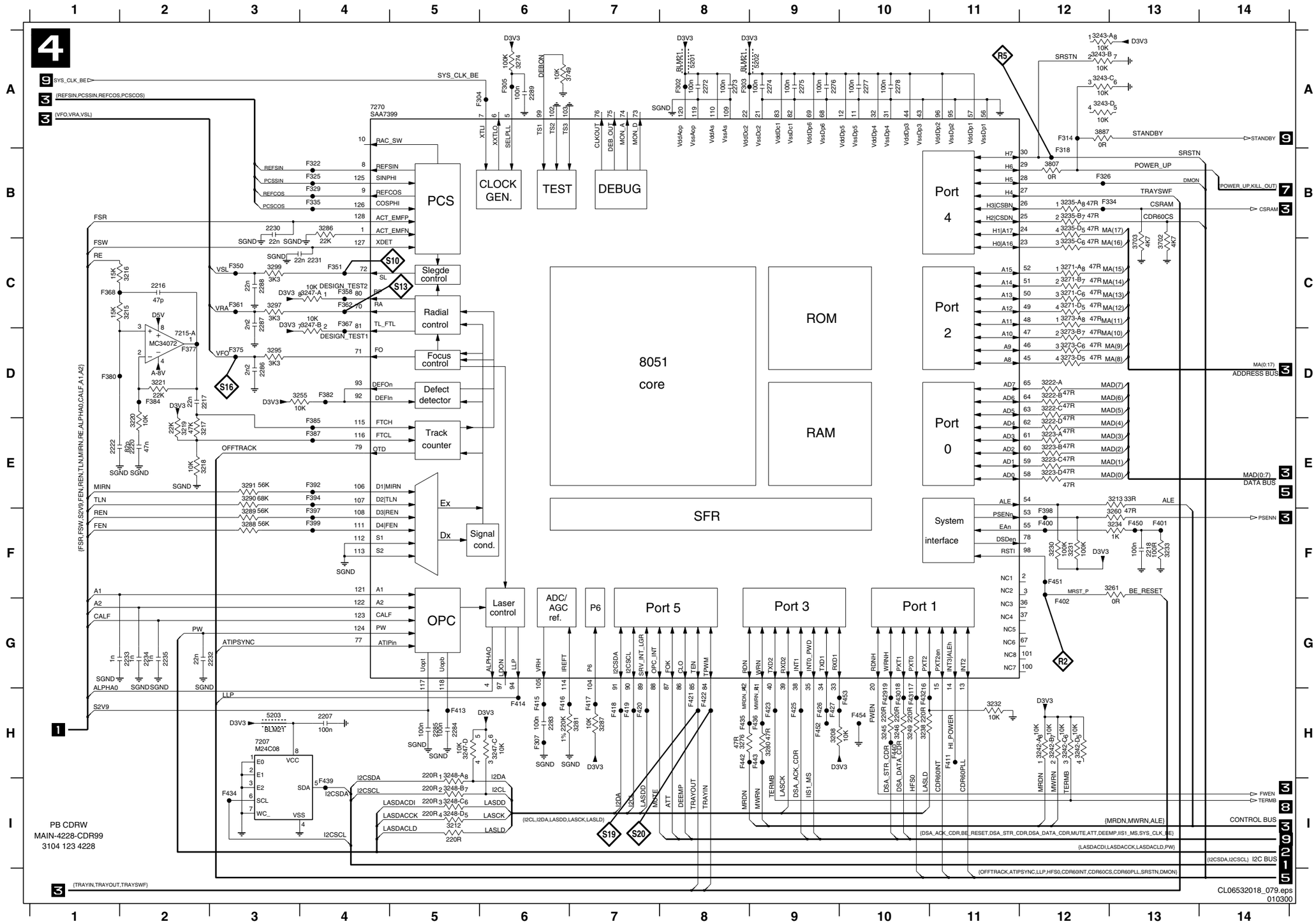
2003 A3
2031 B6
2032 A8
2033 A8
2034 C9
2037 D6
2038 D6
2040 C6
2041 E7
2043 E5
2044 E9
2045 F11
2046 E11
2047 E12
2048 E12
2049 E10
2050 E11
2051 G12
2052 G7
2053 G8
2054 F7
2055 H8
2056 G6
2061 A5
2063 H8
2078 I7
2080 B7
2082 I6
2083 I7
2084 A7
3007 C4
3037 C6
3042 E6
3043 G9
3044 H5
3045 E5
3046 D5
3056 B9
3057 A5
3058 B5
3059 B5
3060 B7
3061 B6
3062 B9
3063 A9
3064 A9
3066 A5
3067 A4
3070 E7
3071 D7
3072 E5
3073 D5
3074 A3
3075 E5
3076 C8
3077 E9
3078 H5
3081 F5
3082 F10
3085 E12
3086 E12
3087 G13
3088 E13
3090 F12
3091 E11
3092 F12
3093 G12
3094 G8
3095 F8
3097 G7
3098 G7
3099 H8
3100 D9
3101 A9
3110 B7
3111 A6
3112 A8
3116 I6
3117 I7
3118 H7
3119 I7
3120 I8
3126 I5
3127 G6
3128 I7
3129 H7
3899 F9
6003 H8
6007 D7
6015 C5
7001-A F6
7001-B D6
7001-C E9
7001-D C8
7002-A I6
7002-B G5
7002-C F10
7002-D A6
7005-B G6
7005-C F11
7005-D A7
7016 A4
7110 A7
7111 H8
7112 I8
7113 F10
7121 F12
7122 G8
7124 G5
7135 A9
F106 A4
F112 A3
F114 A7
F116 A6
F117 A4
F118 A9
F119 A8
F120 A7
F121 A5
F122 B4
F123 B7
F124 B4
F125 B3
F126 B3
F128 B3
F129 B7
F130 B4
F131 C4
F132 C4
F136 C4
F139 C4
F141 C6
F144 C7
F151 D8
F154 D6
F156 D5
F160 D7
F164 D7
F168 D8
F173 E5
F180 E6
F183 E7
F195 F5
F200 F10
F201 F11
F205 F12
F206 F10
F218 G13
F224 G10
F229 G7
F236 G7
F237 G6
F241 G7
F242 G7
F244 G5
F245 H4
F253 I6
F255 I7
F268 I8
F269 I6
F271 I8

CDR MAIN BOARD - CIRCUIT DIAGRAM 3 : SERVO DRIVERS, MACE-RAM, -FLASH, -DEMUX TEST POINTS



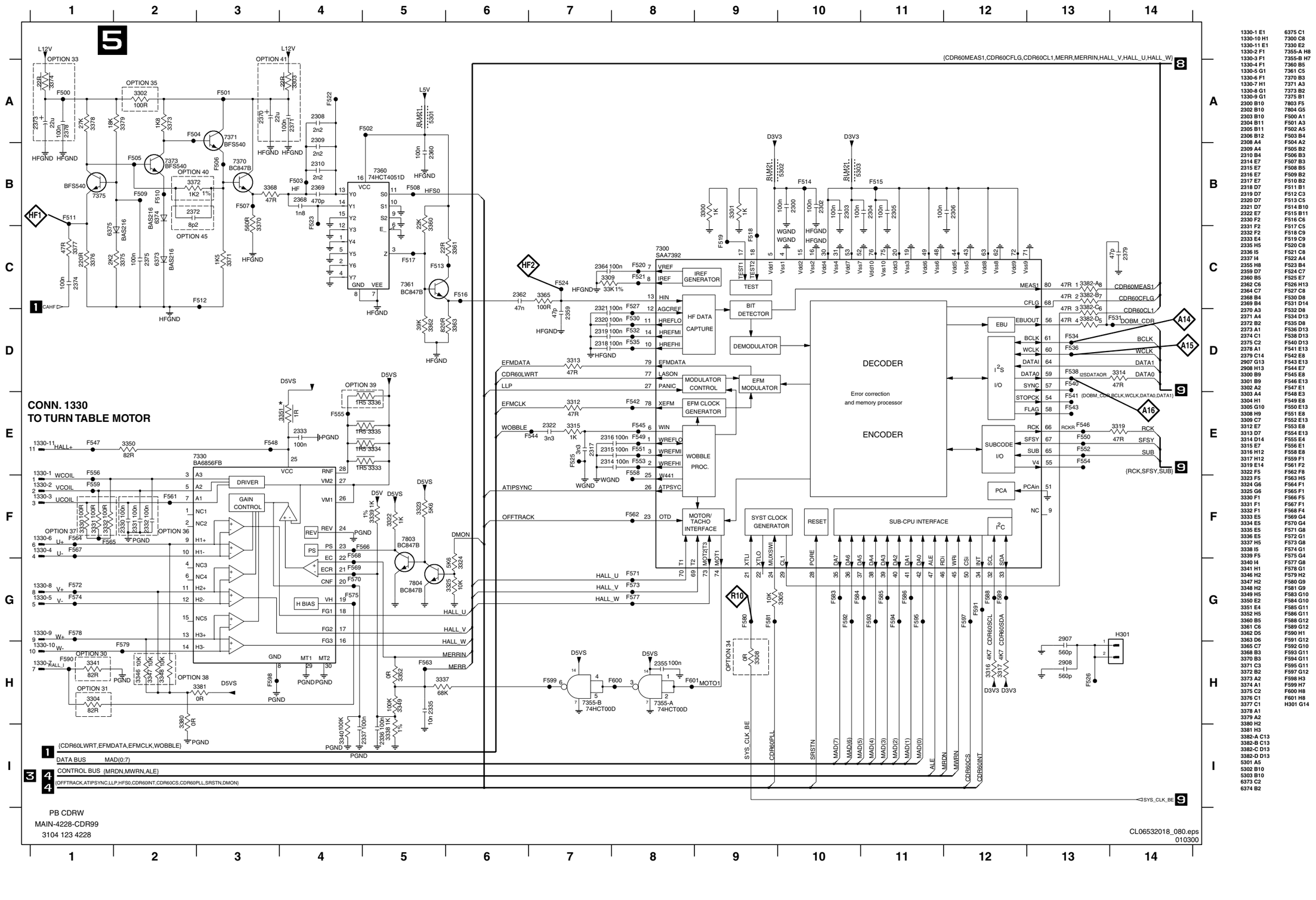
1200 H1
1220 B1
2208 B10
2209 F11
2214 I3
2221 D1
2224 D6
2225 A4
2226 A5
2227 A5
2228 B5
2229 C5
2240 D5
2241 E4
2242 E3
2243 D6
2250 H8
2255 I1
2256 I1
2291 C12
3200 F10
3201 G10
3202 G10
3203 G10
3204 G10
3205 G10
3206 G10
3207 G10
3209 F10
3210-A D12
3210-B D12
3210-C D12
3210-D D12
3211-A D12
3211-B D12
3211-C D12
3211-D E12
3224 B4
3225 A4
3226 A5
3227 B4
3228 B5
3229 C4
3237 D4
3239 D4
3240 D4
3241 F3
3244 F3
3250 G8
3251 G8
3252 D5
3253 D5
3254 F5
3256 F5
3257 G5
3265 H5
3283 B9
3284 B10
3742 G3
3747 H3
3748 I3
3806 B9
3808-A B9
3808-B C9
3808-C C9
3808-D C9
3809-A C9
3809-B C9
3809-C C9
3809-D C9
3889 B12
7201 D4
7202 D4
7208 B10
7209 F10
7215-B D6
7225-A A4
7225-B C4
7240 E4
7802 C11
F300 A5
F301 B5
F306 I4
F311 B10
F312 B9
F313 B10
F316 B9
F317 B10
F319 C9
F320 C10
F321 C12
F323 C9
F324 C10
F327 C9
F328 C10
F330 C9
F331 C10
F337 C9
F338 C10
F341 C9
F342 C10
F346 C10
F348 D10
F349 D10
F353 D9
F354 D10
F355 F10
F356 D9
F357 D10
F360 D10
F364 D10
F366 D10
F370 E10
F371 C2
F373 E10
F374 C2
F379 C2
F381 C2
F383 D2
F386 D2
F389 D5
F390 F9
F391 D7
F393 D4
F396 D3
F403 F3
F404 F5
F406 F3
F407 F5
F409 F3
F433 G3
F438 G8
F444 H5
F445 H5
F446 H1
F447 H1
F448 I1

CDR MAIN BOARD - CIRCUIT DIAGRAM 4 : MACE BE-PROCESSOR TESTPOINTS



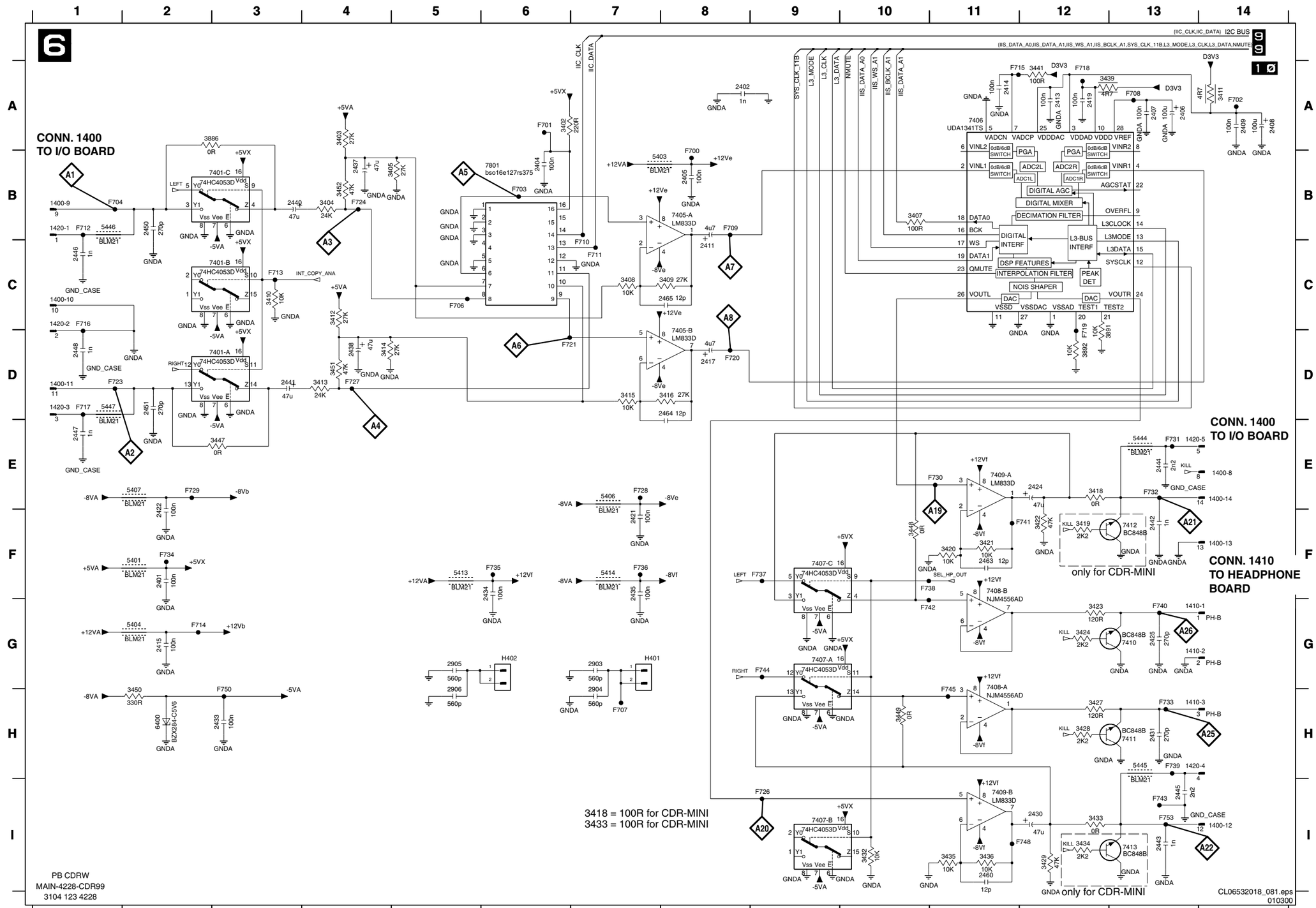
2207 H4	F325 B4
2216 C2	F326 B12
2217 D2	F329 B4
2218 G12	F334 B12
2220 E2	F335 B4
2222 E1	F350 C3
2230 B3	F351 C4
2231 C4	F358 C4
2232 G2	F361 C3
2233 G2	F362 C4
2234 G2	F367 C4
2235 G2	F368 C1
2272 A8	F375 D3
2273 A8	F377 D2
2274 A9	F380 D1
2275 A9	F382 D4
2276 A9	F384 D2
2277 A10	F385 E4
2278 A10	F387 E4
2283 H6	F392 E4
2284 H5	F394 E4
2285 H5	F397 F4
2286 D3	F398 F12
2287 C3	F399 F4
2288 C3	F400 F12
2289 A6	F401 G12
3208 H9	F402 F12
3212 I5	F411 H11
3213 E12	F413 H5
3215 C2	F414 H6
3216 C2	F415 H6
3217 E2	F416 H6
3218 E2	F417 H7
3219 E2	F418 H7
3220 E2	F419 H7
3221 D2	F420 H7
3222-A D12	F421 H8
3222-B D12	F422 H8
3222-C D12	F423 H9
3222-D E12	F425 H9
3223-A E12	F426 H9
3223-B E12	F427 H9
3223-C E12	F429 H10
3223-D E12	F430 H10
3230 G12	F431 H10
3231 G12	F432 H10
3232 H11	F434 I3
3233 G12	F435 H8
3234 G12	F436 H9
3235-A B12	F439 I4
3235-B B12	F440 H10
3235-C C12	F442 H8
3235-D B12	F443 H9
3238 H10	
3242-A H12	
3242-B H12	
3242-C H12	
3242-D H12	
3243-A A12	
3243-B A12	
3243-C A12	
3243-D A12	
3245 H10	
3246 H10	
3247-A C4	
3247-B C4	
3247-C H6	
3247-D H5	
3248-A H5	
3248-B I5	
3248-C I5	
3248-D I5	
3249 H10	
3255 D4	
3260 F12	
3261 F13	
3271-A C12	
3271-B C12	
3271-C C12	
3271-D C12	
3273-A C12	
3273-B D12	
3273-C D12	
3273-D D12	
3274 A6	
3276 H8	
3280 H9	
3281 H7	
3286 B4	
3287 H7	
3288 F3	
3289 F3	
3290 E3	
3291 E3	
3295 D3	
3297 C3	
3299 C3	
3702 C13	
3703 C13	
3749 A6	
3807 B12	
3887 A12	
5201 A8	
5202 A9	
5203 H3	
7207 H3	
7215-A D2	
7270 A4	
F302 A8	
F303 A8	
F304 A6	
F305 A6	
F307 H6	
F314 A12	
F318 B12	
F322 B4	

CDR MAIN BOARD - CIRCUIT DIAGRAM 5 : CD ENCODING-DECODING PART



1330-1 E1	6375 C1	2307 G13	3300 B9
1330-10 H1	7300 C8	2308 H13	3301 B9
1330-11 E1	7330 E2	3300 B9	3302 A2
1330-2 F1	7355-A H8	3301 B9	3303 A4
1330-3 F1	7355-B H7	3302 A2	3304 H1
1330-4 F1	7360 B5	3303 A4	3305 G10
1330-5 G1	7361 C5	3304 H1	3308 H9
1330-6 F1	7370 B3	3305 G10	3309 C7
1330-7 H1	7371 A3	3308 H9	3312 E7
1330-8 G1	7373 B2	3309 C7	3313 D7
1330-9 G1	7375 B1	3312 E7	3314 D14
2300 B10	7803 F5	3313 D7	3315 E7
2302 B10	7804 G5	3314 D14	3316 H12
2303 B10	F500 A1	3315 E7	3317 H12
2304 B11	F501 A3	3316 H12	3319 E14
2305 B11	F502 A5	3317 H12	3322 F5
2306 B12	F503 B4	3319 E14	3323 F5
2308 A4	F504 A2	3322 F5	3324 G6
2309 A4	F505 B2	3323 F5	3325 G6
2310 B4	F506 B3	3324 G6	3330 F1
2314 E7	F507 B3	3325 G6	3331 F1
2315 E7	F508 B5	3330 F1	3332 F1
2316 E7	F509 B2	3331 F1	3333 E5
2317 E7	F510 B2	3332 F1	3334 E5
2318 D7	F511 B1	3333 E5	3335 E5
2319 D7	F512 C3	3334 E5	3336 E5
2320 D7	F513 C5	3335 E5	3337 H5
2321 D7	F514 B10	3336 E5	3338 I5
2322 E7	F515 B11	3337 H5	3339 F5
2330 F2	F516 C6	3338 I5	3340 I4
2331 F2	F517 C5	3339 F5	3341 H1
2332 F2	F518 C9	3340 I4	3346 H2
2333 E4	F519 C9	3341 H1	3347 H2
2335 H5	F520 C8	3346 H2	3348 H2
2336 I5	F521 C8	3347 H2	3349 H5
2337 I4	F522 A4	3348 H2	3350 E2
2355 H8	F523 B4	3349 H5	3351 E4
2359 D7	F524 C7	3350 E2	3352 H5
2360 B5	F525 E7	3351 E4	3360 B5
2362 C6	F526 H13	3352 H5	3361 C6
2364 C7	F527 C8	3360 B5	3362 D5
2368 B4	F530 D8	3361 C6	3363 D6
2369 B4	F531 D14	3362 D5	3365 C7
2370 A3	F532 D8	3363 D6	3368 B3
2371 A4	F534 D13	3365 C7	3370 B3
2372 B2	F535 D8	3368 B3	3371 C3
2373 A1	F536 D13	3370 B3	3372 B2
2374 C1	F538 D13	3371 C3	3373 A2
2375 C2	F540 D13	3372 B2	3374 A1
2378 A1	F541 E13	3373 A2	3375 C2
2379 C14	F542 E8	3374 A1	3376 C1
2907 G13	F543 E13	3375 C2	3377 C1
2908 H13	F544 E7	3376 C1	3378 A1
3300 B9	F545 E8	3377 C1	3379 A2
3301 B9	F546 E13	3378 A1	3380 H2
3302 A2	F547 E1	3379 A2	3381 H3
3303 A4	F548 E3	3380 H2	3382-A C13
3304 H1	F549 E8	3381 H3	3382-B C13
3305 G10	F550 E13	3382-A C13	3382-C D13
3308 H9	F551 E8	3382-B C13	3382-D D13
3309 C7	F552 E13	3382-C D13	5301 A5
3312 E7	F553 E8	3382-D D13	5302 B10
3313 D7	F554 E13	5301 A5	5303 B10
3314 D14	F555 E4	5302 B10	6373 C2
3315 E7	F556 E1	5303 B10	6374 B2
3316 H12	F558 E8	6373 C2	
3317 H12	F559 F1	6374 B2	
3319 E14	F561 F2		
3322 F5	F562 F8		
3323 F5	F563 H5		
3324 G6	F564 F1		
3325 G6	F565 F1		
3330 F1	F566 F5		
3331 F1	F567 F1		
3332 F1	F568 F4		
3333 E5	F569 G4		
3334 E5	F570 G4		
3335 E5	F571 G8		
3336 E5	F572 G1		
3337 H5	F573 G8		
3338 I5	F574 G1		
3339 F5	F575 G4		
3340 I4	F577 G8		
3341 H1	F578 G1		
3346 H2	F579 B4		
3347 H2	F580 G9		
3348 H2	F581 G9		
3349 H5	F583 G10		
3350 E2	F584 G10		
3351 E4	F585 G11		
3352 H5	F586 G11		
3360 B5	F588 G12		
3361 C6	F589 G12		
3362 D5	F590 H1		
3363 D6	F591 G12		
3365 C7	F592 G10		
3368 B3	F593 G11		
3370 B3	F594 G11		
3371 C3	F595 G11		
3372 B2	F597 G12		
3373 A2	F598 H3		
3374 A1	F599 H7		
3375 C2	F600 H8		
3376 C1	F601 H8		
3377 C1	H301 G14		
3378 A1			
3379 A2			
3380 H2			
3381 H3			
3382-A C13			
3382-B C13			
3382-C D13			
3382-D D13			
5301 A5			
5302 B10			
5303 B10			
6373 C2			
6374 B2			

CDR MAIN BOARD - CIRCUIT DIAGRAM 6 : AUDIO PART (NOT FOR CDR950/951)



1400-10 C1
1400-11 D1
1400-12 I14
1400-13 F14
1400-14 E14
1400-8 E14
1400-9 B1
1410-1 G14
1410-2 G14
1410-3 H14
1420-1 B1
1420-2 C1
1420-3 D1
1420-4 H14
1420-5 E14
2401 F2
2402 A8
2404 B6
2405 B8
2406 A13
2407 A13
2408 A14
2409 A14
2411 C8
2413 A12
2414 A11
2415 G2
2417 D8
2419 A12
2421 F7
2422 F2
2424 E12
2425 G13
2430 I12
2431 H13
2433 H3
2434 F6
2435 F7
2437 B4
2438 D4
2440 B3
2441 D3
2442 F13
2443 I13
2444 E13
2445 I13
2446 C1
2447 E1
2448 D1
2450 B2
2451 D2
2460 I11
2463 F11
2464 D8
2465 C8
2903 G7
2904 H7
2905 G5
2906 H5
3402 A6
3403 A4
3404 B4
3405 B5
3407 B10
3408 C7
3409 C8
3410 C3
3411 A14
3412 C4
3413 D4
3414 D4
3415 D7
3416 D8
3418 E12
3419 F12
3420 F11
3421 F11
3422 F12
3423 G12
3424 G12
3427 H12
3428 H12
3429 I12
3432 I10
3433 I12
3434 I12
3435 I11
3436 I11
3439 A12
3441 A12
3447 E3
3448 F10
3449 H10
3450 H2
3451 D4
3452 B4
3886 A2
3891 D12
3892 D12
5401 F2
5403 B7
5404 G2
5406 E7
5407 E2
5413 F5
5414 F7
5444 E13
5445 H13
5446 B1
5447 D1
6400 H2
7401-A D3
7401-B C3
7401-C B3
7405-A B8
7405-B D8
7406 A11
7407-A G9
7407-B I9
7407-C F9
7408-A H11
7408-B F11
7409-A E11
7409-B I11
7410 G13
7411 H13
7412 F13
7413 I13
7801 B6
F700 B8
F701 A6
F702 A14
F703 B6
F704 B1
F706 C5
F707 H7
F708 A13
F709 B8
F710 B7
F711 C7
F712 B1
F713 C3
F714 G2
F715 A11
F716 C1
F717 D1
F718 A12
F719 D12
F720 D8
F721 D6
F723 D1
F724 B4
F726 I9
F727 D4
F728 E7
F729 E2
F730 E11
F731 E13
F732 E13
F733 H13
F734 F2
F735 F6
F736 F7
F737 F9
F738 H10
F739 H13
F740 G13
F741 F12
F742 G10
F743 I13
F744 G9
F745 H11
F748 I12
F750 H3
F753 I13
H401 G7
H402 G6

CDR MAIN BOARD - CIRCUIT DIAGRAM 7 : POWER PART TESTPOINTS

7

TO DISPLAY BOARD

FROM PSU

1500 F815 VDC2 F816 VFTD F817 VDC1 F820 F822 F823 5500 2572 100n 2571 100n 2500 2n2 GND_CASE F827 5502 BLM21 F828 5501 BLM21 5503 BLM21 2501 2n2 EH-B 2502 2n2 GND_CASE GND_CASE F831 5709 BLM21 -8VA 2577 100n

5556 BLM21 2568 100u F800 +5VA

1542 1A MP 7535 LD1117 IN OUT GND 2536 100n 2535 100n 2537 47u F802 D3V3

1543 1A MP 5543 5544 2543 100n 2544 47u F805 D5V

P12V 3537 10K 3538 100K 7520 STD17N05 F806 D5VS 5546 BLM21 F807 2546 47u L5V

7523 BC847B 0.7V F813

POWER_UP 3538 10K F814 3539 100K 7524 BC847B

P12VKILL 5541 BLM21 1541 1A MP 5555 BLM21 F821 +12VA 5542 BLM21 2541 100n 2548 100u 2565 100n GNDA F839 P12V

BCP69 7527 3554 10K F840 12VPWR

7558 L78M09 IN GND OUT F841 +9SRVPWR 2574 100n 2575 220u

3542 12R 3541 12R F843 L12V 2547 47u

POWER_UP F844 10K 3556 0.7V F845 3555 1K2 7528 BC847B F842 11V 3557 100K

+5VA 3544 47K F830 5V 3552 47K

12VPWR 12VCP 3545 6R8 11.8V F838 2551 22u 7521-A MC34072 F812 5.2V 3546 100R F836 5V 12VCP 7526 BC847B F846 F491 5.2V 7522 BC857B

3547 15K 2552 1n

12VCP 7521-B MC34072 3548 47K F835 5V 3551 3K3 3549 100R F834 4.6V 4.5V 12VCP 7548 BC847B F493 F494 4.6V 7529 BC857B

+5VA 3553 100R F837 5.2V

10V 23.2V 6501 BAV99 27.5V 2562 100n F496 2563 100n F492 2550 100n 2553 100n 6554 BAV99 2508 100n 2509 100n F495 17.8V

F499 5554 47u F498 3550 100R F497 27.4V P12V 2507 10u

6500 BAV70W F819 FS30V 2505 10u 2506 33n

6502 BZX284-C22

P12VKILL 6553 BAS216 F801 11.8V 3570 100R 2504 220u BC857B 7560 3533 100K F803 11.8V BC857B 7561 14 KILL 6 F804 -8V during normal operation 3559 5K6 3562 5K6 3560 100K F808 F809 0.7V F811 F810 5K6 3532 7563 BC847B 7562 BC847B 3531 5K6 -8VA

KILL_OUT

12VPWR 3540 10K 3566 100K F818 7525 BC857B F832 3567 22K F825 7549 BC847B -8VA F824 2561 100n 5551 BLM21 F826 2558 100u 12 2555 10n 13 7556 MC79L05ABD OUT IN NC GND F829 A-8V L-5V 2557 100n 2556 100n

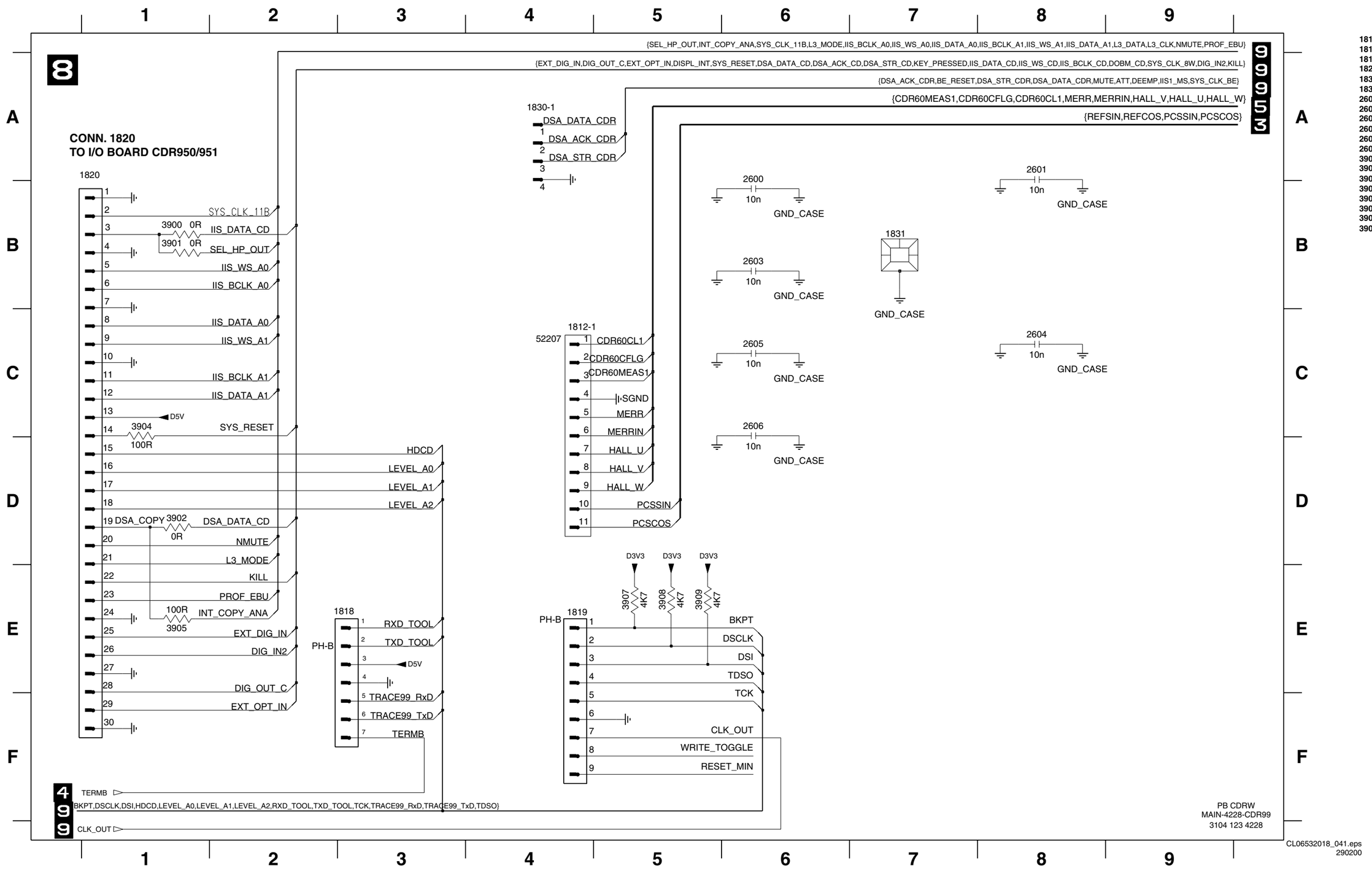
PB CDRW
MAIN-4228-CDR99
3104 123 4228

4 {POWER_UP,KILL_OUT}

CL06532018_082.eps
010300

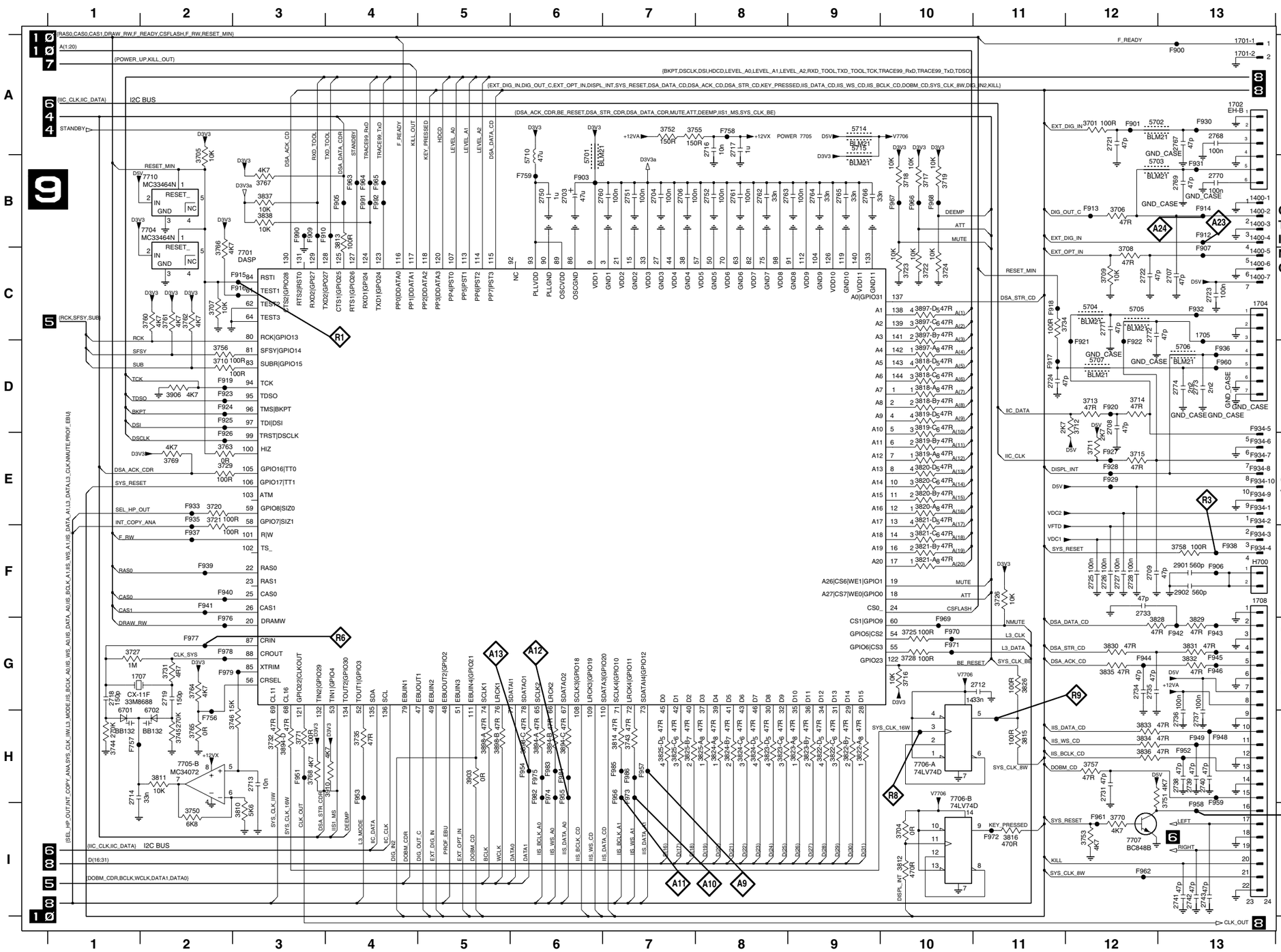
1500 D1
1541 D4
1542 A4
1543 B4
2500 E2
2501 F1
2502 F2
2504 A11
2505 H12
2506 H12
2507 H9
2508 I8
2509 I8
2535 B5
2536 B4
2537 B5
2541 D5
2543 B4
2544 B4
2546 C7
2547 F6
2548 D5
2550 H8
2551 G4
2552 H3
2553 H8
2555 F12
2556 G13
2557 F14
2558 F12
2561 F11
2562 H8
2563 H8
2565 D6
2568 A5
2571 D3
2572 E2
2574 E8
2575 E9
2577 F2
3531 C12
3532 C12
3533 A13
3536 C6
3537 C6
3538 C4
3539 D5
3540 E10
3541 F6
3542 E6
3544 F3
3545 G4
3546 G4
3547 H5
3548 H6
3549 I7
3550 H10
3551 I6
3552 F5
3553 I6
3554 E5
3555 E5
3556 E4
3557 F4
3559 B12
3560 B14
3562 B13
3566 E10
3567 E11
3570 A12
5500 D2
5501 E2
5502 E2
5503 E2
5541 D4
5542 D4
5543 B3
5544 B3
5546 C7
5551 F11
5554 H10
5555 D6
5556 A5
5709 F2
6500 G11
6501 G9
6502 I11
6553 A11
6554 H9
7520 C6
7521-A G4
7521-B I6
7522 H5
7523 C6
7524 C5
7525 E11
7526 G5
7527 E5
7528 F4
7529 I8
7535 A4
7548 I8
7549 F11
7556 F13
7558 E8
7560 B12
7561 B14
7562 C13
7563 C12
F491 G5
F492 H8
F493 I7
F494 I8
F495 I9
F496 H8
F497 H10
F498 H10
F499 I
F800 A
F801 A
F802 A
F803 I
F804 I
F805 I
F806 I
F807 I
F808 I
F809 I
F810 I
F811 I
F812 I
F813 I
F814 I
F815 I
F816 I
F817 I
F818 I
F819 I
F820 I
F821 I
F822 I
F823 I
F824 I
F825 I
F826 I
F827 I
F828 I
F829 I
F830 I
F831 I
F832 I
F834 I
F835 I
F836 I
F837 I
F838 I
F839 I
F840 I
F841 I
F842 I
F843 I
F844 I
F845 I
F846 I

CDR MAIN BOARD - CIRCUIT DIAGRAM 8 : TEST & CONNECTOR PART



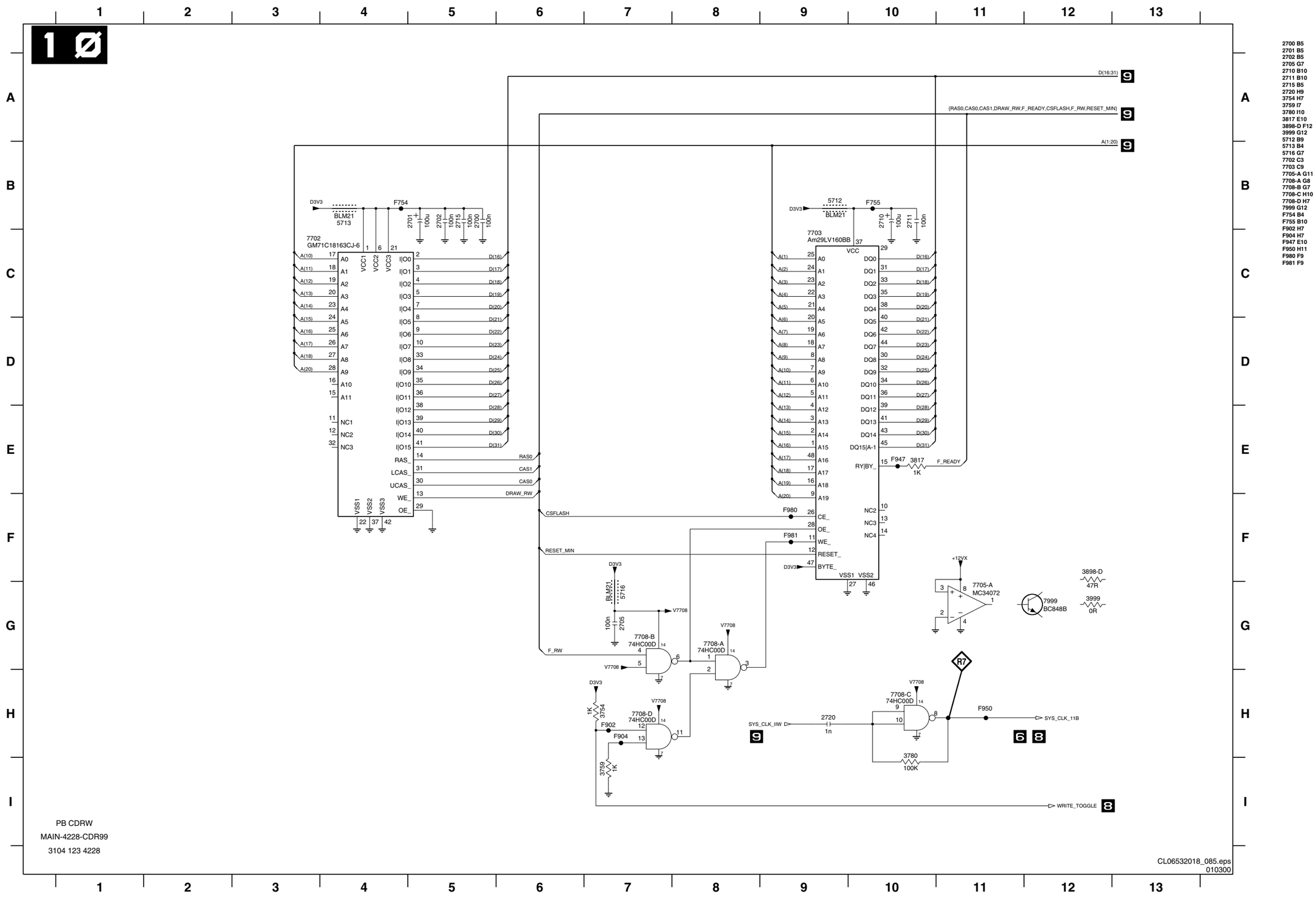
1812-1 C4
1818 E3
1819 E4
1820 A1
1830-1 A4
1831 B7
2600 B6
2601 A8
2603 B6
2604 C8
2605 C6
2606 C6
3900 B1
3901 B1
3902 D1
3904 C1
3905 E1
3907 E5
3908 E5
3909 E5

CDR MAIN BOARD - CIRCUIT DIAGRAM 9 : DASP MASTER PROCESSOR TESTPOINTS



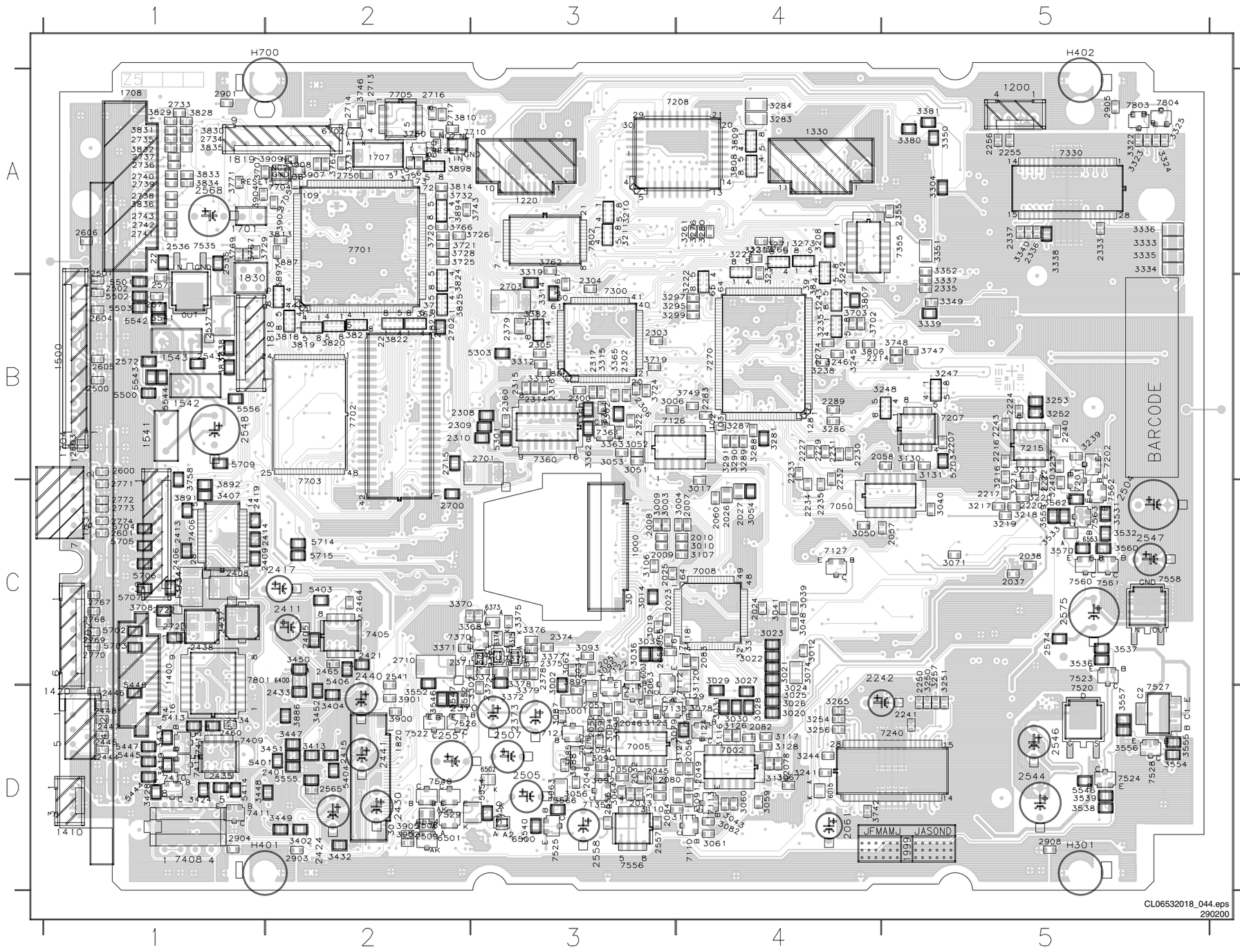
PB CDRW
MAIN-4228-CDR99
3104 123 4228

CDR MAIN BOARD - CIRCUIT DIAGRAM 10 : DASP FLASH & DRAM TESTPOINTS



2700 B5
2701 B5
2702 B5
2705 G7
2710 B10
2711 B10
2715 B5
2720 H9
3754 H7
3759 I7
3780 I10
3817 E10
3898-D F12
3999 G12
5712 B9
5713 B4
5716 G7
7702 C3
7703 C9
7705-A G11
7708-A G8
7708-B G7
7708-C H10
7708-D H7
7999 G12
F754 B4
F755 B10
F902 H7
F904 H7
F947 E10
F950 H11
F980 F9
F981 F9

CDR MAIN BOARD - TOP VIEW



1000 C3
1200 A5
1220 A3
1330 A4
400 C1
410 D1
420 D1
500 B1
541 B1
542 B1
543 B1
1701 A4
1702 C1
1704 B1
1707 A2
1708 A1
818 B2
819 A1
820 D2
830 B1
831 C1
2007 C4
2008 C3
2009 C3
2010 C3
2023 C3
2024 C4
2025 C3
2026 C4
2027 C4
2032 D3
2033 D3
2034 D3
2037 C5
2038 C5
2045 D3
2046 D3
2047 D3
2048 D3
2049 D4
2050 C5
2051 C5
2052 D3
2053 D3
2054 D3
2056 D4
2057 C5
2058 B5
2059 C4
2060 C4
2061 D4
2063 C3
2078 D4
2081 D4
2082 D4
2083 C4
2084 B5
2085 C4
2214 B4
2216 B5
2217 C5
2220 C5
2222 C5
2224 B5
2227 B4
2229 B4
2230 B4
2231 B4
2232 B4
2233 B4
2234 C4
2235 C4
2240 B5
2241 C4
2242 C4
2243 B5
2250 C5
2256 A5
2274 B4
2283 B4
2300 B3
2302 B3
2303 B3
2304 B3
2305 B3
2306 B3
2308 B2
2309 B2
2310 B2
2314 B3
2315 B3
2316 B3
2317 B3
2322 B3
2333 A5
2335 B5
2343 D4
2350 A5
2355 A5
2360 B3
2367 B3
2370 D2
2371 C2
2372 D3
2373 D3
2374 C3
2375 C3
2378 C3
2379 B5
2401 B5
2405 C2
2406 C1
2408 C1
2410 C1
2411 C2
2413 C1
2414 D2
2415 C1
2417 C2
2419 C1
2421 C2
2424 D2
2430 D2
2433 D2
2434 D1
2435 D1
2437 C1
2438 C1
2440 C2
2441 D1
2444 D1
2445 D1
2446 D1
2447 D1
2448 D1
2460 D1
2464 C2
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2502 B1
2504 C5
2505 D3
2507 D3
2508 D2
2509 D2
2535 A1
2539 B1
2541 C2
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2605 B1
2606 B1
2700 C2
2701 B3
2702 B2
2703 C3
2710 C2
2713 A2
2714 A2
2716 A2
2717 A2
2722 C1
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2734 A1
2735 A1
2736 A1
2737 A1
2738 A1
2739 A1
2740 A1
2741 A1
2742 A1
2743 A1
2744 A1
2750 A2
2768 C1
2769 C1
2770 C1
2771 C1
2772 C1
2773 C1
2774 C1
2901 A4
2903 D2
2904 D1
2905 A5
2908 B5
3001 D3
3002 C3
3003 C3
3009 C3
3010 C4
3014 C3
3017 C4
3019 C3
3021 C4
3022 C4
3023 C4
3025 D4
3026 D4
3027 C4
3029 C4
3030 D4
3031 D4
3039 C4
3040 C5
3041 D4
3048 C4
3050 C4
3051 B3
3052 B3
3053 B3
3054 C4
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3063 B3
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3067 D4
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3213 A4
3215 B5
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3217 C5
3218 C5
3219 C5
3220 C5
3221 C5
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3230 A4
3231 A4
3237 B5
3238 B4
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7410 D2
7411 D1
7412 D1
7413 D1
7520 D5
7521 C5
7523 C5
7524 D5
7525 D5
7527 D5
7528 D5
7556 D3
7558 C5
7560 C5
7561 C5
7562 C5
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7701 A1
7702 B2
7703 C2
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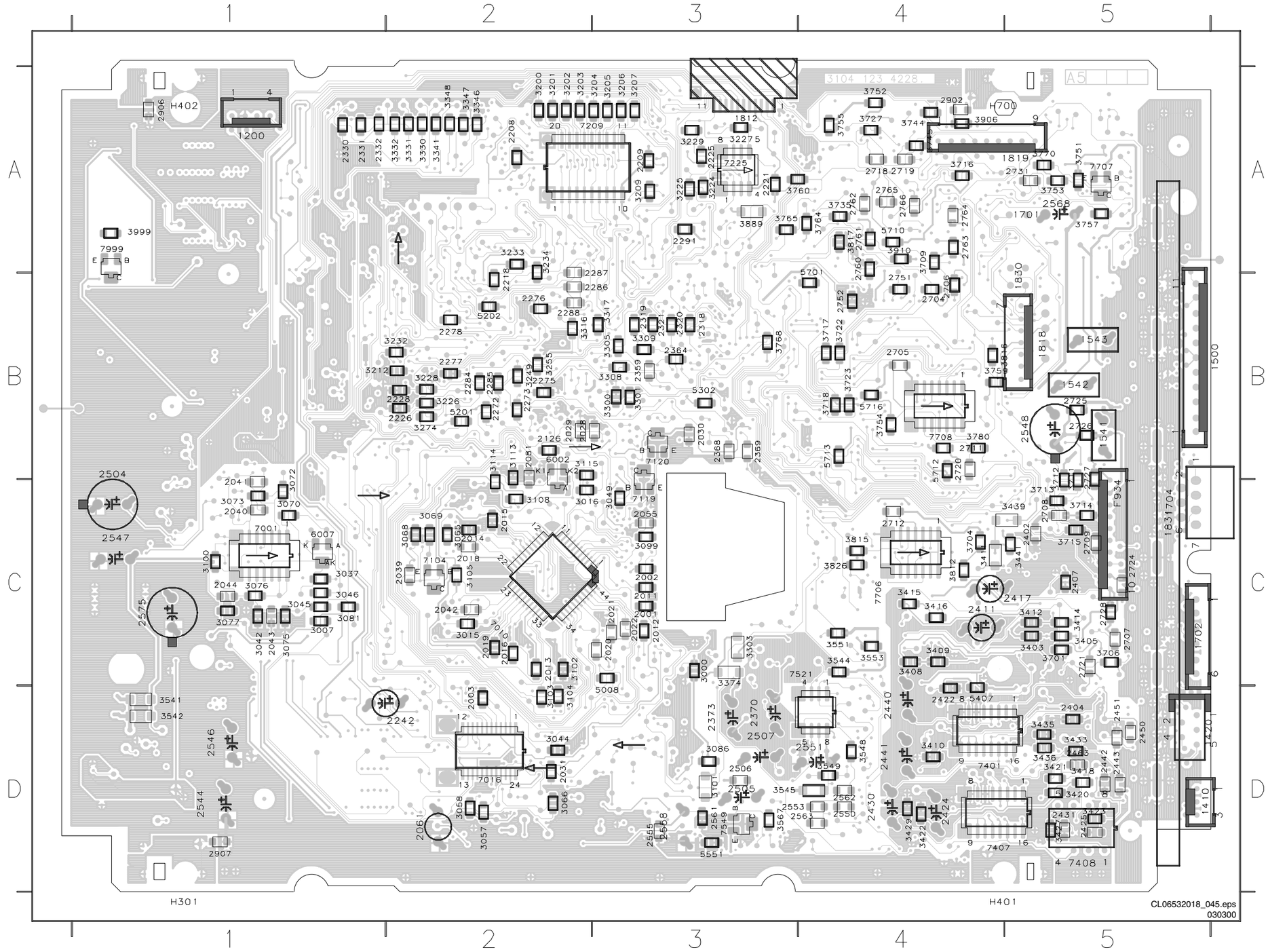
F934 C1

CDR MAIN BOARD - BOTTOM VIEW



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2002 C2 2724 C5 3341 A2 5716 B4
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2011 C3 2726 B5 3347 A2 6007 C1
2012 C3 2727 B5 3348 A2 7001 C1
2013 C2 2728 C5 3374 C3 7010 C2
2014 C2 2731 A5 3403 D5 7016 D2
2015 C2 2751 B4 3405 C5 7104 C2
2016 C2 2752 B4 3408 C4 7119 C3
2018 C2 2760 A4 3409 C4 7120 B3
2019 C3 2761 A4 3410 D4 7209 A2
2020 C3 2762 A4 3411 C4 7225 A3
2021 C3 2763 A4 3412 C5 7401 D4
2022 C3 2764 A4 3414 C5 7407 D4
2028 B2 2765 A4 3415 C4 7521 C4
2029 B2 2766 A4 3416 C4 7549 D3
2030 B3 2902 A4 3418 D5 7706 C4
2031 D2 2906 A1 3420 D5 7707 A5
2039 C2 2907 D1 3421 D5 7708 B4
2040 C1 3000 C3 3422 D4 7999 A1
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2042 C2 3015 C2 3427 D5
2043 C1 3016 C2 3429 D4
2044 C1 3037 C1 3435 D5
2055 C2 3042 C1 3436 D5
2081 B2 3044 D2 3439 C5
2126 B2 3045 C1 3441 C5
2208 A2 3046 C1 3541 D1
2209 A3 3049 C3 3542 D1
2218 B2 3057 D2 3544 C4
2221 A3 3058 D2 3545 D3
2225 A3 3065 C2 3548 D4
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2287 B3 3099 C3 3713 C5
2288 B2 3100 C1 3714 C5
2291 A3 3101 D3 3715 C5
2318 B3 3102 D3 3716 B4
2319 B3 3103 D2 3717 B4
2320 B3 3104 D2 3718 B4
2321 B3 3105 C2 3722 B4
2330 A1 3108 C2 3723 B4
2331 A1 3113 B2 3727 A4
2332 A1 3114 B2 3735 A4
2359 B3 3115 B2 3744 A4
2364 B3 3200 A2 3745 A4
2368 B3 3201 A2 3751 A5
2369 B3 3202 A2 3752 A4
2402 C5 3203 A2 3753 A5
2404 D5 3204 A3 3754 B4
2407 C5 3205 A3 3755 A4
2422 D4 3206 A3 3757 A5
2425 D5 3207 A3 3759 B4
2431 D5 3209 A3 3760 A3
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2550 D4 3229 A2 3815 C4
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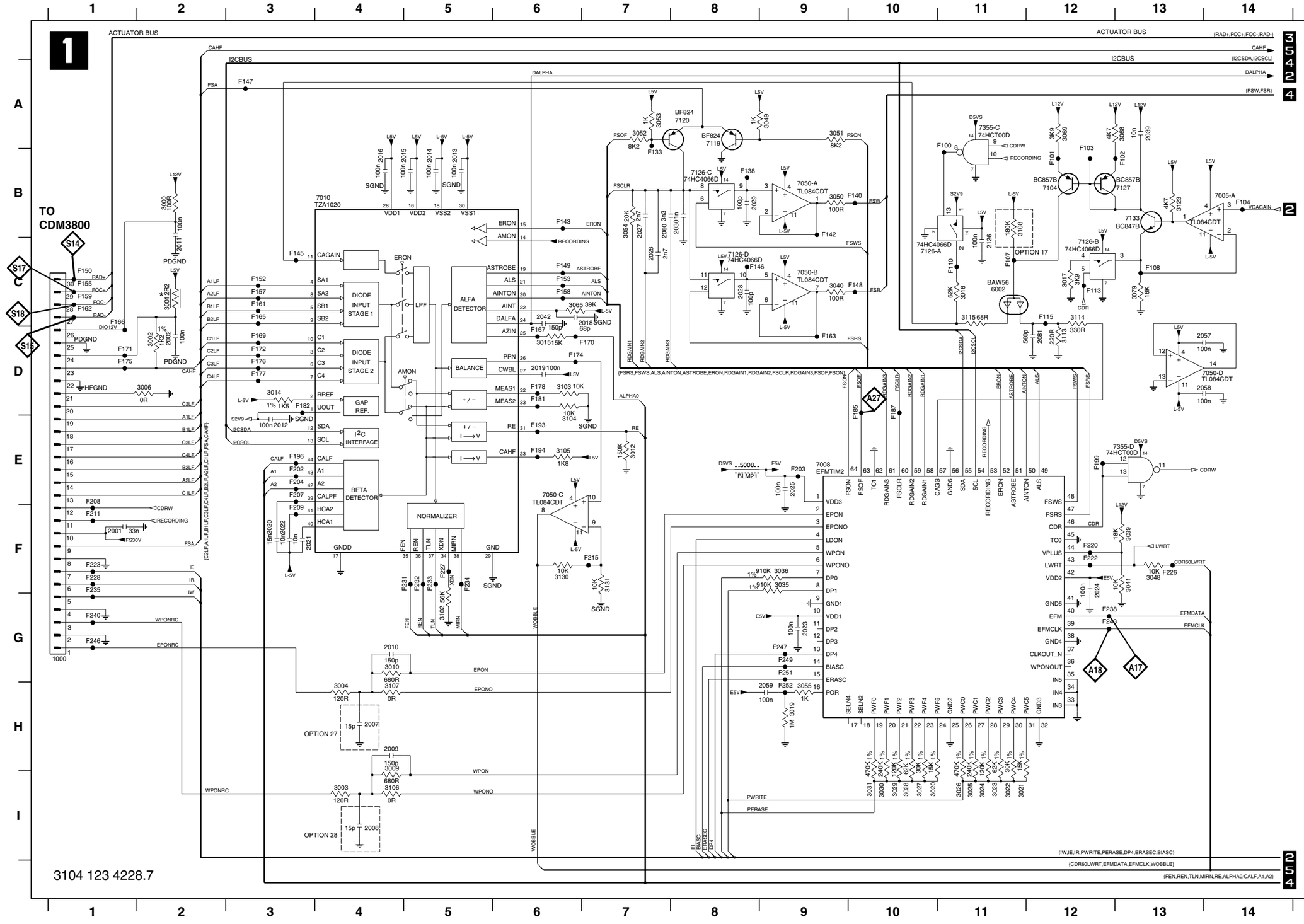
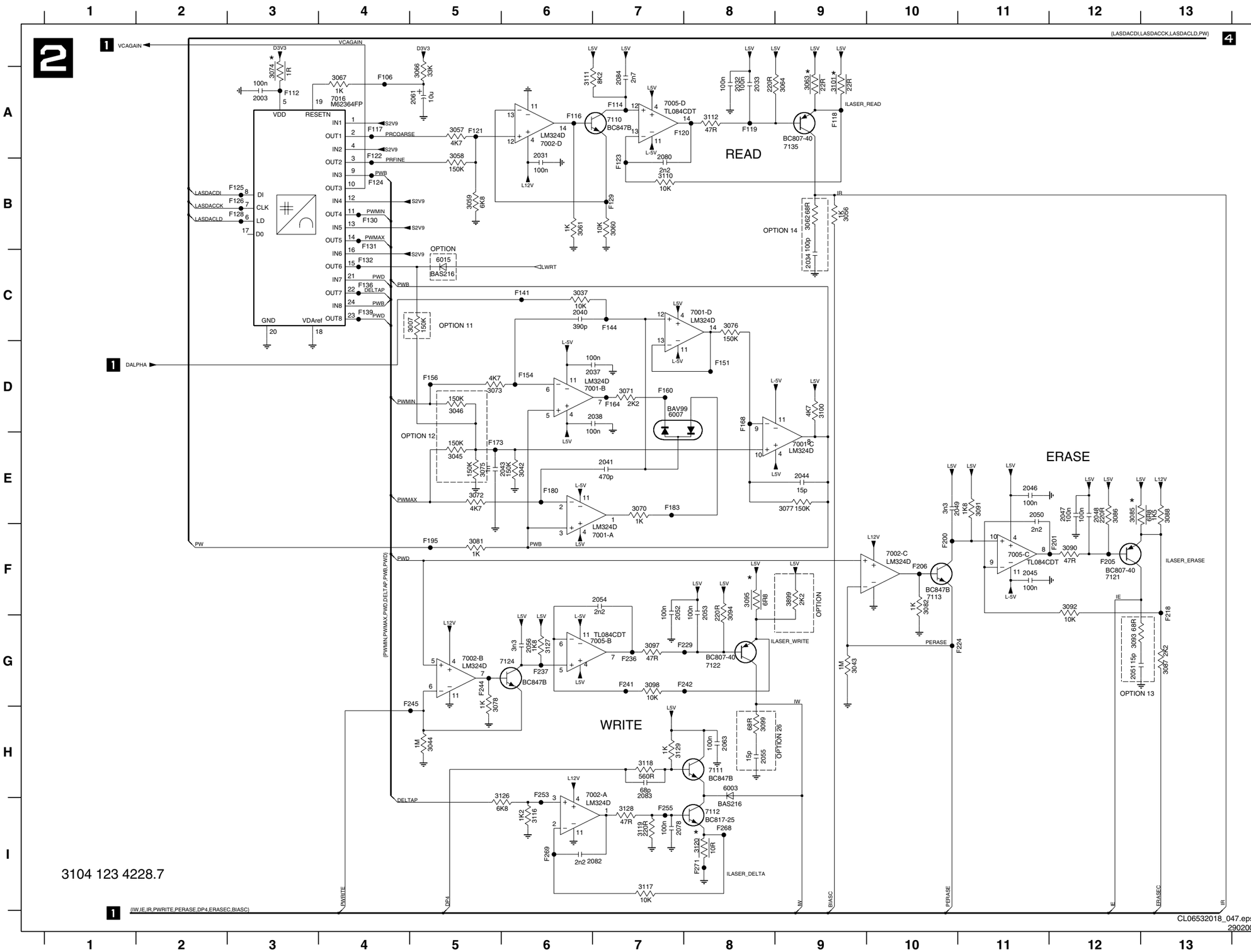
2706 B4 3301 B3 5008 D3
2707 C5 3303 C3 5201 B2
2708 C5 3305 B3 5202 B2
2709 C5 3308 B3 5302 B3
2711 B4 3309 B3 5407 D4
2712 C4 3316 B4 5551 D3
2718 A4 3317 B4 5701 A4
2719 A4 3330 A2 5710 A4

CDR-Mainboard Version 4228.7

CDR MAIN BOARD - CIRCUIT DIAGRAM 1 : AEGER, EFMTIM, FORWARD SENSE CIRCUIT TESTPOINTS

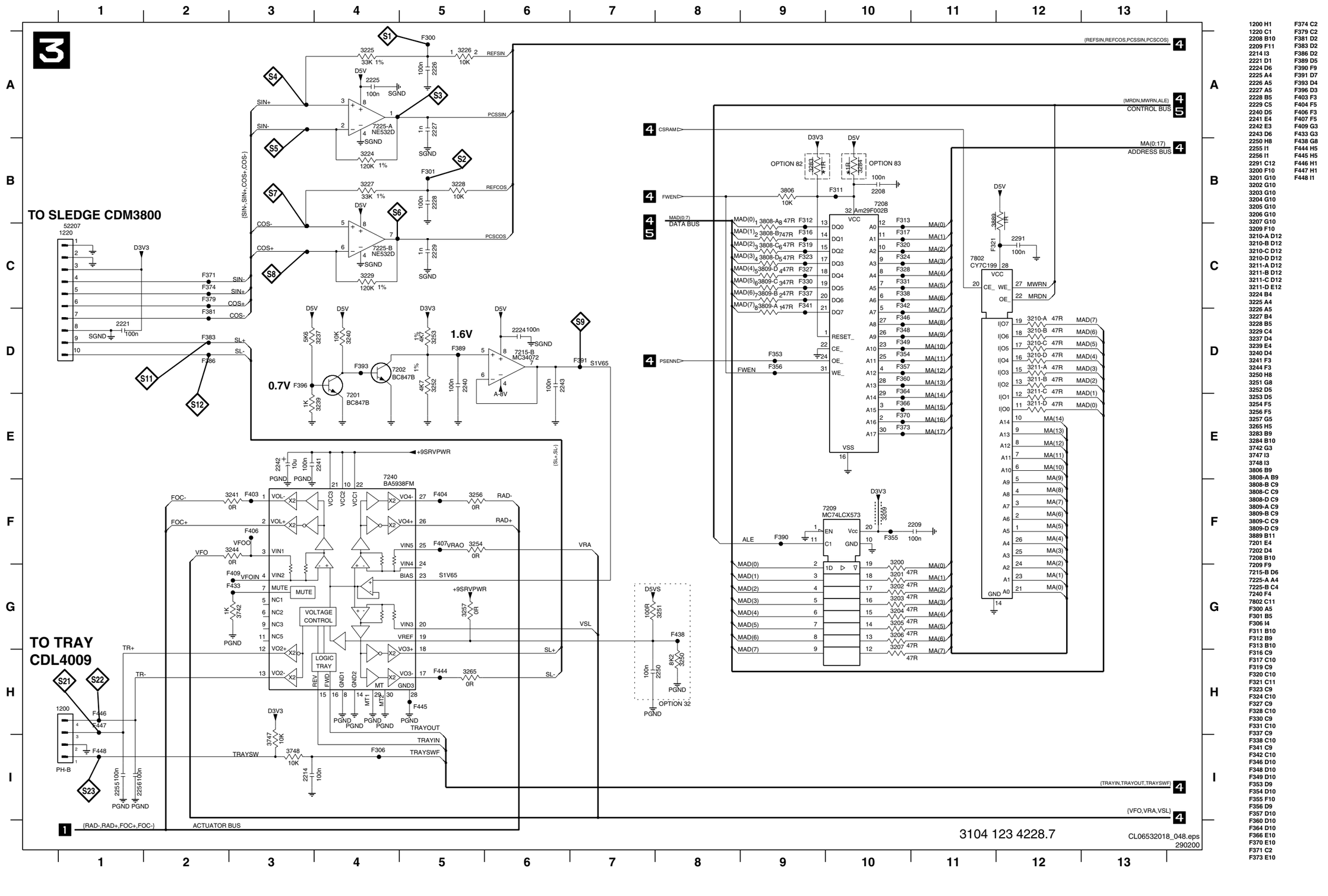


1000 G1	F110 C11
2001 F1	F113 C12
2002 D2	F115 C12
2007 H4	F133 B7
2008 I4	F138 B8
2009 H4	F140 B10
2010 G4	F142 B9
2011 C2	F143 B6
2012 E3	F145 C3
2013 B5	F146 C8
2014 B5	F147 A3
2015 B4	F148 C10
2016 B4	F149 C6
2017 C7	F150 C1
2019 D6	F152 C3
2020 F3	F153 C6
2021 F3	F155 C1
2022 F3	F157 C3
2023 G9	F158 C6
2024 F12	F159 C1
2025 E9	F161 C3
2026 C7	F162 C1
2027 B7	F163 D9
2028 C8	F165 C3
2029 B8	F166 C1
2030 B8	F167 D6
2039 A13	F169 D3
2042 C6	F170 D7
2057 D14	F171 D1
2058 D14	F172 D3
2059 H9	F174 D6
2060 B7	F175 D1
2081 D12	F176 D3
2126 C11	F177 D3
3000 B2	F178 D6
3001 C2	F181 D6
3002 D2	F182 D3
3003 I4	F185 D10
3004 H4	F187 D10
3006 D2	F193 E6
3009 H4	F194 E6
3010 G4	F196 E3
3012 E7	F199 E12
3014 D3	F202 E3
3015 D6	F203 E9
3016 C11	F204 E3
3017 C12	F207 E3
3019 H9	F208 E1
3020 I10	F209 F3
3021 I11	F211 F1
3022 I11	F215 F7
3023 I11	F220 F12
3024 I11	F222 F12
3025 I11	F223 F1
3026 I11	F226 F13
3027 I10	F227 F5
3028 I10	F228 F1
3029 I10	F231 F4
3030 I10	F232 F5
3031 I10	F233 F5
3035 F9	F234 F5
3036 F9	F235 F1
3039 F13	F238 G12
3040 C9	F240 G1
3041 F13	F243 G12
3048 F13	F246 G1
3049 A9	F247 G9
3050 B9	F249 G9
3051 A9	F251 G9
3052 A7	F252 H9
3053 A7	
3054 B7	
3055 H9	
3065 C6	
3068 A13	
3069 A12	
3079 C13	
3102 G5	
3103 D6	
3104 E6	
3105 E6	
3106 I4	
3107 H4	
3108 B11	
3113 D12	
3114 C12	
3115 C11	
3123 B13	
3130 F6	
3131 F7	
5008 E8	
6002 C11	
7005-A B14	
7008 E9	
7010 B4	
7050-A B9	
7050-B C9	
7050-C E6	
7050-D D13	
7104 B12	
7119 A8	
7120 A8	
7126-A C11	
7126-B C12	
7126-C B8	
7126-D C8	
7127 B13	
7133 B13	
7355-C A11	
7355-D E12	
F100 A11	
F101 B12	
F102 B13	
F103 B12	
F104 B14	
F107 C11	
F108 C13	



2003 A3	F121 A5
2031 A6	F122 A4
2032 A8	F123 B7
2033 A8	F124 B4
2034 C9	F125 B3
2037 D7	F126 B3
2038 D7	F128 B3
2040 C6	F129 B7
2041 E7	F130 B4
2043 E5	F131 B4
2044 E9	F132 C4
2045 F11	F136 C4
2046 E11	F139 C4
2047 E12	F141 C6
2048 E12	F144 C7
2049 E10	F151 D8
2050 E11	F154 D6
2051 G12	F156 D5
2052 F7	F160 D7
2053 F8	F164 D7
2054 F7	F168 D8
2055 H8	F173 E5
2056 G6	F180 E6
2061 A5	F183 E7
2063 H8	F195 F5
2078 I7	F200 F10
2080 B7	F201 F12
2082 I7	F205 F12
2083 I7	F206 F10
2084 A7	F218 F13
3007 C5	F224 G10
3037 C6	F229 G8
3042 E6	F236 G7
3043 G9	F237 G6
3044 H5	F241 G7
3045 E5	F242 G8
3046 D5	F244 G5
3056 B9	F245 G5
3057 A5	F253 H6
3058 B5	F255 I7
3059 B5	F268 I8
3060 B7	F269 I6
3061 B6	F271 I8
3062 B9	
3063 A9	
3064 A9	
3066 A5	
3067 A4	
3070 E7	
3071 D7	
3072 E5	
3073 D5	
3074 A3	
3075 E5	
3076 C8	
3077 E9	
3078 G5	
3081 F5	
3082 F10	
3085 E12	
3086 E12	
3087 G13	
3088 E13	
3090 F12	
3091 E11	
3092 F12	
3093 G12	
3094 F8	
3095 F8	
3097 G7	
3098 G7	
3099 H8	
3100 D9	
3101 A9	
3110 B7	
3111 A6	
3112 A8	
3116 I6	
3117 I7	
3118 H7	
3119 I7	
3120 I8	
3126 I6	
3127 G6	
3128 I7	
3129 H7	
3899 F9	
6003 H8	
6007 D7	
6015 C5	
7001-A F7	
7001-B D6	
7001-C E9	
7001-D C8	
7002-A H6	
7002-B G5	
7002-C F10	
7002-D A6	
7005-B G6	
7005-C F11	
7005-D A7	
7016 A4	
7110 A7	
7111 H8	
7112 I8	
7113 F10	
7121 F12	
7122 G8	
7124 G5	
7135 A9	
F106 A4	
F112 A3	
F114 A7	
F116 A6	
F117 A4	
F118 A9	
F119 A8	
F120 A7	

CDR MAIN BOARD - CIRCUIT DIAGRAM 3 : SERVO DRIVERS, MACE-RAM, -FLASH, -DEMUX TEST POINTS



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2209 F11
2214 I3
2221 D1
2224 D6
2225 A4
2226 A5
2227 A5
2228 B5
2229 C5
2240 D5
2241 E4
2242 E3
2243 D6
2250 H8
2255 I1
2256 I1
2291 C12
3200 F10
3201 G10
3202 G10
3203 G10
3204 G10
3205 G10
3206 G10
3207 G10
3209 F10
3210-A D12
3210-B D12
3210-C D12
3210-D D12
3211-A D12
3211-B D12
3211-C D12
3211-D E12
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3226 A5
3227 B4
3228 B5
3229 C4
3237 D4
3239 E4
3240 D4
3241 F3
3244 F3
3250 H8
3251 G8
3252 D5
3253 D5
3254 F5
3256 F5
3257 G5
3265 H5
3283 B9
3284 B10
3742 G3
3747 I3
3748 I3
3806 B9
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3808-B C9
3808-C C9
3808-D C9
3809-A C9
3809-B C9
3809-C C9
3809-D C9
3889 B11
7201 E4
7202 D4
7208 B10
7209 F9
7215-B D6
7225-A A4
7225-B C4
7240 F4
7802 C11
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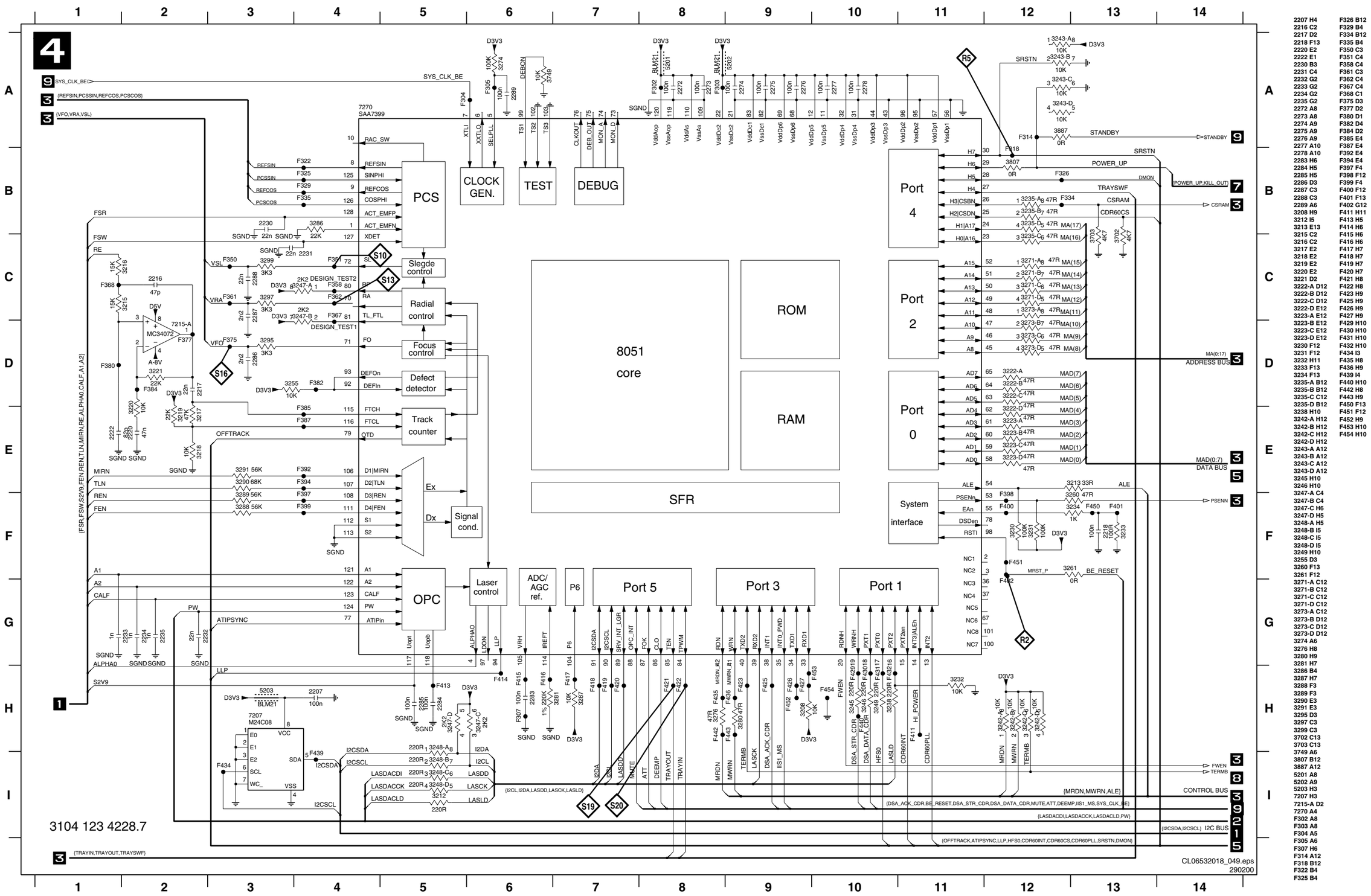
F301 B5
F306 I4
F311 B10
F312 B9
F313 B10
F316 C9
F317 C10
F319 C9
F320 C10
F321 C11
F323 C9
F324 C10
F327 C9
F328 C10
F330 C9
F331 C10
F337 C9
F338 C10
F341 C9
F342 C10
F346 D10
F348 D10
F349 D10
F353 D9
F354 D10
F355 F10
F356 D9
F357 D10
F360 D10
F364 D10
F366 E10
F370 E10
F371 C2
F373 E10
F374 C2
F379 C2
F381 D2
F383 D2
F386 D2
F389 D5
F390 F9
F391 D7
F393 D4
F396 D3
F403 F3
F404 F5
F406 F3
F407 F5
F409 G3
F433 G3
F438 G8
F444 H5
F445 H5
F446 H1
F447 H1
F448 I1

CDR MAIN BOARD - CIRCUIT DIAGRAM 4 : MACE BE-PROCESSOR TESTPOINTS



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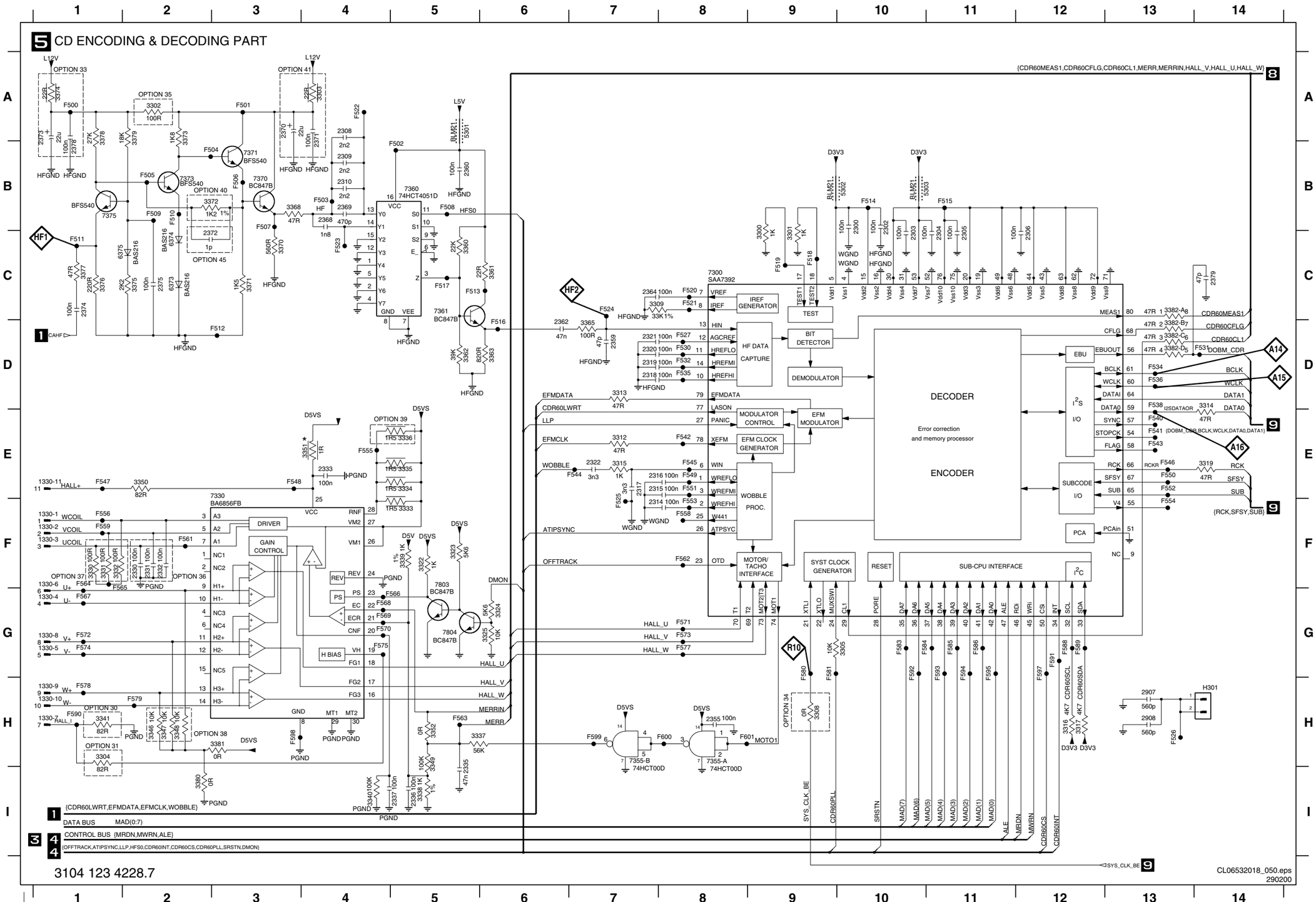
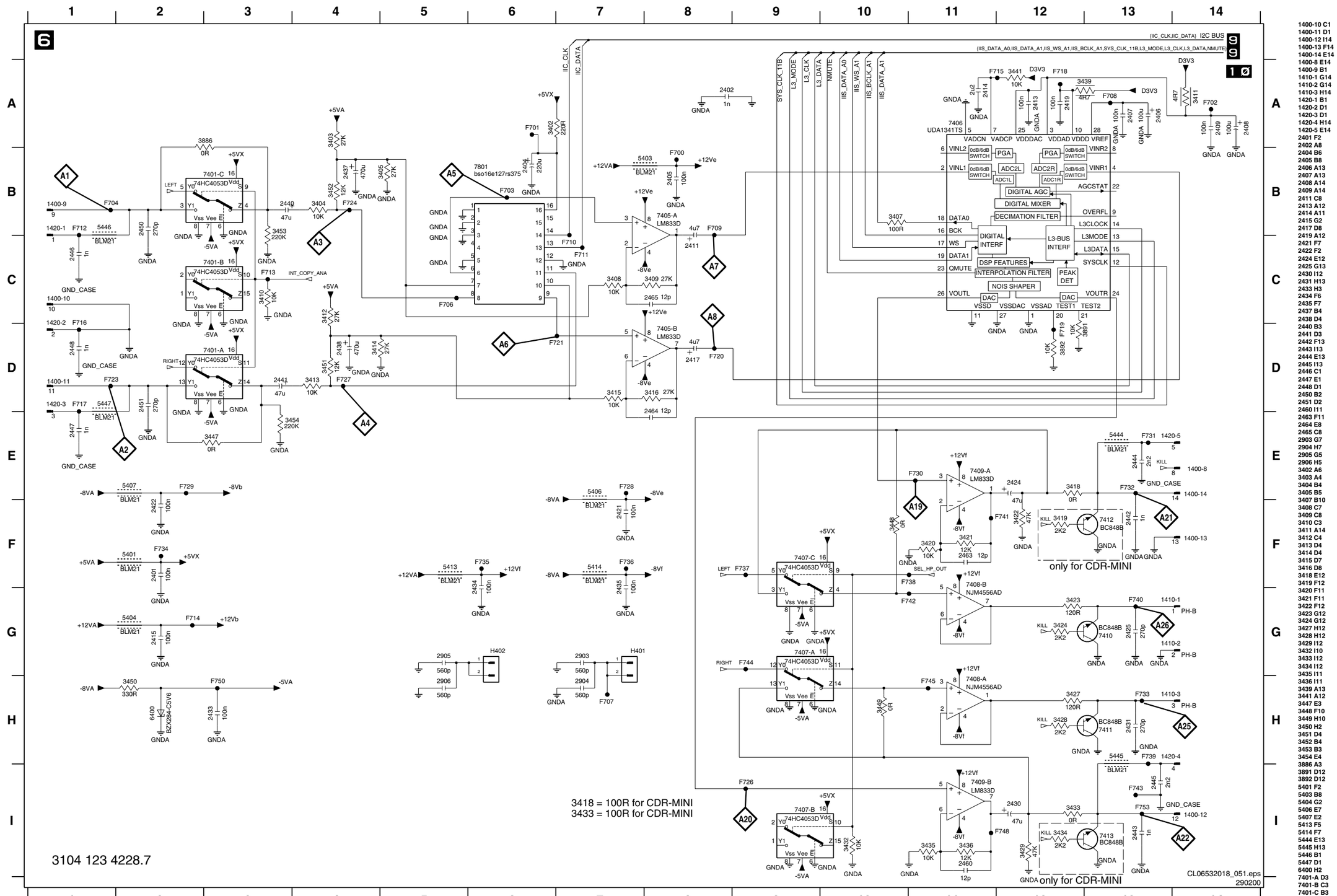
2217 D2
2218 F13
2220 E2
2222 E1
2230 B3
2231 C4
2232 G2
2233 G2
2234 G2
2235 G2
2272 A8
2273 A8
2274 A9
2275 A9
2276 A9
2277 A10
2278 A10
2283 H6
2284 H5
2285 H5
2286 D3
2287 C3
2288 C3
2289 A6
3208 H9
3212 I5
3213 E13
3215 C2
3216 C2
3217 E2
3218 E2
3219 E2
3220 E2
3221 D2
3222-A D12
3222-B D12
3222-C D12
3222-D E12
3223-A E12
3223-B E12
3223-C E12
3223-D E12
3230 F12
3231 F12
3232 H11
3233 F13
3234 F13
3235-A B12
3235-B B12
3235-C C12
3235-D B12
3238 H10
3242-A H12
3242-B H12
3242-C H12
3242-D H12
3243-A A12
3243-B A12
3243-C A12
3243-D A12
3245 H10
3246 H10
3247-A C4
3247-B C4
3247-C H6
3247-D H5
3248-A H5
3248-B I5
3248-C I5
3248-D I5
3249 H10
3255 D3
3260 F13
3261 F12
3271-A C12
3271-B C12
3271-C C12
3271-D C12
3273-A C12
3273-B D12
3273-C D12
3273-D D12
3274 A6
3276 H8
3280 H9
3281 H7
3286 B4
3287 H7
3288 F3
3289 F3
3290 E3
3291 E3
3295 D3
3297 C3
3299 C3
3702 C13
3703 C13
3749 A6
3807 B12
3887 A12
5201 A8
5202 A9
5203 H3
7207 H3
7215-A D2
7270 A4
F302 A8
F303 A8
F304 A5
F305 A6
F307 H6
F314 A12
F318 B12
F322 B4
F325 B4
F326 B12
F329 B4
F334 B12
F335 B4
F350 C3
F351 C4
F358 C4
F361 C3
F362 C4
F367 C4
F368 C1
F375 D3
F377 D2
F380 D1
F384 D2
F385 E4
F387 E4
F392 E4
F394 E4
F397 F4
F398 F12
F399 F4
F400 F12
F401 F13
F402 G12
F411 H11
F413 H5
F414 H6
F415 H6
F416 H6
F417 H7
F418 E2
F419 H7
F420 H7
F421 H8
F422 H8
F423 H9
F425 H9
F426 H9
F427 H9
F429 H10
F430 H10
F431 H10
F432 H10
F434 I3
F435 H8
F436 H9
F439 I4
F440 H10
F442 H8
F443 H9
F450 F13
F451 F12
F452 H9
F453 H10
F454 H10

CDR MAIN BOARD - CIRCUIT DIAGRAM 5 : CD ENCODING-DECODING PART



1330-1 F1	5303 B10
1330-10 H1	6373 C2
1330-11 E1	6374 C2
1330-2 F1	6375 C2
1330-3 F1	7300 C8
1330-4 G1	7330 E2
1330-5 G1	7355-A H8
1330-6 F1	7355-B H7
1330-7 H1	7360 B5
1330-8 G1	7361 C5
1330-9 H1	7370 B3
2300 B10	7371 B3
2302 B10	7373 B2
2303 C10	7375 B1
2304 C11	7803 F5
2305 C11	7804 G5
2306 C12	F500 A1
2308 A4	F501 A3
2309 B4	F502 B5
2310 B4	F503 B4
2314 F7	F504 B2
2315 E7	F505 B2
2316 E7	F506 B3
2317 E7	F507 B3
2318 D7	F508 B5
2319 D7	F509 B2
2320 D7	F510 B2
2321 D7	F511 C1
2322 E7	F512 D3
2330 F2	F513 C5
2331 F2	F514 B10
2332 F2	F515 B11
2333 E4	F516 D6
2335 H5	F517 C5
2336 I5	F518 C9
2337 I5	F519 C9
2355 H8	F520 C8
2359 D7	F521 C8
2360 B5	F522 A4
2362 D6	F523 C4
2364 C7	F524 C7
2368 B4	F525 F7
2369 B4	F526 H13
2370 A3	F527 D8
2371 A4	F530 D8
2372 C2	F531 D14
2373 A1	F532 D8
2374 C1	F534 D13
2375 C2	F535 D8
2378 B1	F536 D13
2379 C14	F538 D13
2907 H13	F540 E13
2908 H13	F541 E13
3300 C9	F542 E8
3301 C9	F543 E13
3302 A2	F544 E7
3303 A4	F545 E8
3304 H1	F546 E13
3305 G10	F547 E1
3308 H9	F548 E3
3309 C7	F549 E8
3312 E7	F550 E13
3313 D7	F551 E8
3314 D14	F552 E13
3315 E7	F553 F8
3316 H12	F554 F13
3317 H12	F555 E4
3319 E14	F556 F1
3322 F5	F558 F8
3323 F5	F559 F1
3324 G6	F561 F2
3325 G6	F562 F8
3330 F1	F563 H5
3331 F1	F564 F1
3332 F1	F565 G1
3333 F5	F566 G5
3334 E5	F567 G1
3335 E5	F568 G4
3336 E5	F569 G4
3337 H5	F570 G4
3338 I5	F571 G8
3339 F5	F572 G1
3340 I4	F573 G8
3341 H1	F574 G1
3346 H2	F575 G4
3347 H2	F577 G8
3348 H2	F578 H1
3349 H5	F579 H2
3350 E2	F580 G9
3351 E4	F581 G9
3352 H5	F583 G10
3360 C5	F584 G11
3361 C6	F585 G11
3362 D5	F586 G11
3363 D6	F588 G12
3365 D7	F589 G12
3368 B3	F590 H1
3370 C3	F591 G12
3371 C3	F592 G10
3372 B2	F593 G11
3373 A2	F594 G11
3374 A1	F595 G11
3375 C2	F597 G12
3376 C1	F598 H3
3377 C1	F599 H7
3378 A1	F600 H8
3379 A2	F601 H8
3380 I2	H301 H14
3381 H3	
3382-A C13	
3382-B D13	
3382-C D13	
3382-D D13	
5301 A5	
5302 B10	

CDR MAIN BOARD - CIRCUIT DIAGRAM 6 : AUDIO PART (NOT FOR CDR950/951)



1400-10 C1
1400-11 D1
1400-12 I14
1400-13 F14
1400-14 E14
1400-8 E14
1400-9 B1
1410-1 G14
1410-2 G14
1410-3 H14
1420-1 B1
1420-2 D1
1420-3 D1
1420-4 H14
1420-5 E14
2401 F2
2402 A8
2404 B6
2405 B8
2406 A13
2407 A13
2408 A14
2409 A14
2411 C8
2413 A12
2414 A11
2415 G2
2417 D8
2419 A12
2421 F7
2422 F2
2424 E12
2425 G13
2430 I12
2431 H13
2433 H3
2434 F6
2435 F7
2437 B4
2438 D4
2440 B3
2441 D3
2442 F13
2443 I13
2444 E13
2445 I13
2446 C1
2447 E1
2448 D1
2450 B2
2451 D2
2460 I11
2463 F11
2464 E8
2465 C8
2903 G7
2904 H7
2905 G5
2906 H5
3402 A6
3403 A4
3404 B4
3405 B5
3407 B10
3408 C7
3409 C8
3410 C3
3411 A14
3412 C4
3413 D4
3414 D4
3415 D7
3416 D8
3418 E12
3419 F12
3420 F11
3421 F11
3422 F12
3423 G12
3424 G12
3427 H12
3428 H12
3429 I12
3433 I12
3434 I12
3435 I11
3436 I11
3439 A13
3441 A12
3447 E3
3448 F10
3449 H10
3450 H2
3451 D4
3452 B4
3453 B3
3454 E4
3886 A3
3891 D12
3892 D12
5401 F2
5403 B8
5404 G2
5406 E7
5407 E2
5413 F5
5414 F7
5444 E13
5445 H13
5446 B1
5447 D1
6400 H2
7401-A D3
7401-B C3
7401-C B3
7405-A B8
7405-B D8
7406 A11
7407-A G9
7407-B I9
7407-C F9
7408-A H11
7408-B F11
7409-A E11
7409-B I11
7410 G13
7411 H13
7412 F13
7413 I13
7801 B6
F700 B8
F701 A6
F702 A14
F703 B6
F704 B8
F706 C5
F707 H7
F708 A13
F709 B8
F710 C7
F711 C7
F712 B1
F713 C3
F714 G2
F715 A12
F716 D1
F717 D1
F718 A12
F719 D12
F720 D8
F721 D7
F723 D1
F724 B4
F726 I9
F727 D4
F728 E7
F729 E2
F730 E11
F731 E13
F732 E13
F733 H13
F734 F2
F735 F6
F736 F7
F737 F9
F738 F11
F739 H13
F740 G13
F741 F12
F742 G11
F743 I13
F744 G9
F745 H11
F748 I12
F750 H3
F753 I13
H401 G7
H402 G6

CDR MAIN BOARD - CIRCUIT DIAGRAM 7 : POWER PART TESTPOINTS

7 POWER PART

TO DISPLAY BOARD

FROM PSU

3104 123 4228.7

94 {POWER_UP,KILL_OUT}

CL06532018_052.eps
290200

1500 D1 F498 H10
1541 D4 F499 H9
1542 A4 F800 A6
1543 B4 F801 A12
2500 E2 F802 A6
2501 F1 F803 B13
2502 F2 F804 B14
2504 A12 F805 B6
2505 H12 F806 C8
2506 H12 F807 C8
2507 H10 F808 B13
2508 I8 F809 B12
2509 I8 F810 C11
2535 B5 F811 C12
2536 B4 F812 H3
2537 B5 F813 C5
2541 D5 F814 C5
2543 B4 F815 D2
2544 B4 F816 D2
2546 C7 F817 D2
2547 F6 F818 E10
2548 D5 F819 H12
2550 H8 F820 D1
2551 G4 F821 D7
2552 H4 F822 D2
2553 H8 F823 D2
2555 F12 F824 F11
2556 G13 F825 F11
2557 F14 F826 F12
2558 F12 F827 E2
2561 F11 F828 E2
2562 H8 F829 F14
2563 H8 F830 F4
2565 D6 F831 F3
2568 A5 F832 E11
2571 D3 F834 I7
2572 E2 F835 I6
2574 E8 F836 H4
2575 E9 F837 I7
2577 F2 F838 G4
3013 H13 F839 E6
3531 C12 F840 E6
3532 C12 F841 E9
3533 A13 F842 E5
3536 C6 F843 F7
3537 C6 F844 E3
3538 C4 F845 F4
3539 D5 F846 H5
3540 E10
3541 F6
3542 E6
3544 F4
3545 G4
3546 G4
3547 H5
3548 H6
3549 I7
3550 H10
3551 I6
3552 F5
3553 I6
3554 E5
3555 E5
3556 E4
3557 F4
3559 B12
3560 B14
3562 B13
3566 E10
3567 E11
3570 A12
5500 D2
5501 E2
5502 E2
5503 E2
5541 D4
5542 D4
5543 B3
5544 B3
5546 C7
5551 F11
5554 H10
5555 D6
5556 A5
5709 F3
6500 G11
6501 G9
6502 I11
6553 A11
6554 H9
7520 C6
7521-A G4
7521-B I6
7522 H5
7523 C6
7524 C5
7525 E11
7526 G5
7527 E5
7528 F5
7529 I8
7535 A4
7548 I8
7549 F11
7556 F13
7558 E8
7560 B12
7561 B14
7562 C13
7563 C12
F491 G5
F492 H9
F493 I7
F494 I8
F495 I9
F496 H8
F497 H11

8 TEST PART

{SEL_HP_OUT,INT_COPY_ANA,SYS_CLK_11B,L3_MODE,IIS_BCLK_A0,IIS_WS_A0,IIS_DATA_A0,IIS_BCLK_A1,IIS_WS_A1,IIS_DATA_A1,L3_DATA,L3_CLK,NMUTE,PROF_EBU}

{EXT_DIG_IN,DIG_OUT_C,EXT_OPT_IN,DISPL_INT,SYS_RESET,DSA_DATA_CD,DSA_ACK_CD,DSA_STR_CD,KEY_PRESSED,IIS_DATA_CD,IIS_WS_CD,IIS_BCLK_CD,DOBM_CD,SYS_CLK_8W,DIG_IN2,KILL}

{DSA_ACK_CDR,BE_RESET,DSA_STR_CDR,DSA_DATA_CDR,MUTE,ATT,DEEMP,IIS1_MS,SYS_CLK_BE}

{CDR60MEAS1,CDR60CFLG,CDR60CL1,MERR,MERRIN,HALL_V,HALL_U,HALL_W}

{REFSIN,REFCOS,PCSSIN,PCSCOS}

9953

1812-1 C4
1818 E3
1819 E4
1820 A1
1830-1 A4
1831 B7
2600 A6
2601 A8
2603 B6
2604 C8
2605 C6
2606 C6
3900 B1
3901 B1
3902 D1
3904 C1
3905 E1
3907 E5
3908 E5
3909 E5

1820: 1 | 2 SYS_CLK_11B | 3 3900 0R IIS_DATA_CD | 3901 0R | 4 SEL_HP_OUT | 5 IIS_WS_A0 | 6 IIS_BCLK_A0 | 7 | 8 IIS_DATA_A0 | 9 IIS_WS_A1 | 10 | 11 IIS_BCLK_A1 | 12 IIS_DATA_A1 | 13 D5V | 14 3904 100R SYS_RESET | 15 HDCD | 16 LEVEL_A0 | 17 LEVEL_A1 | 18 LEVEL_A2 | 19 DSA_COPY 3902 0R DSA_DATA_CD | 20 NMUTE | 21 L3_MODE | 22 KILL | 23 PROF_EBU | 24 100R 3905 INT_COPY_ANA | 25 EXT_DIG_IN | 26 DIG_IN2 | 27 | 28 DIG_OUT_C | 29 EXT_OPT_IN | 30

1830-1: 1 DSA_DATA_CDR | 2 DSA_ACK_CDR | 3 DSA_STR_CDR | 4

1812-1 52207: 1 CDR60CL1 | 2 CDR60CFLG | 3 CDR60MEAS1 | 4 SGND | 5 MERR | 6 MERRIN | 7 HALL_U | 8 HALL_V | 9 HALL_W | 10 PCSSIN | 11 PCSCOS

1818 PH-B: 1 RXD_TOOL | 2 TXD_TOOL | 3 D5V | 4 | 5 TRACE99_RxD | 6 TRACE99_TxD | 7 TERMB

1819 PH-B: 1 BKPT | 2 DSCLK | 3 DSI | 4 TDSO | 5 TCK | 6 | 7 CLK_OUT | 8 WRITE_TOGGLE | 9 RESET_MIN

D3V3 — 3907 4K7 — 3908 1K — 3909 4K7

2600 10n GND_CASE
2601 10n GND_CASE
2603 10n GND_CASE
1831 GND_CASE
2604 10n GND_CASE
2605 10n GND_CASE
2606 10n GND_CASE

4 TERMB
9 {BKPT,DSCLK,DSI,HDCD,LEVEL_A0,LEVEL_A1,LEVEL_A2,RXD_TOOL,TXD_TOOL,TCK,TRACE99_RxD,TRACE99_TxD,TDSO}
9 CLK_OUT

3104 123 4228.7

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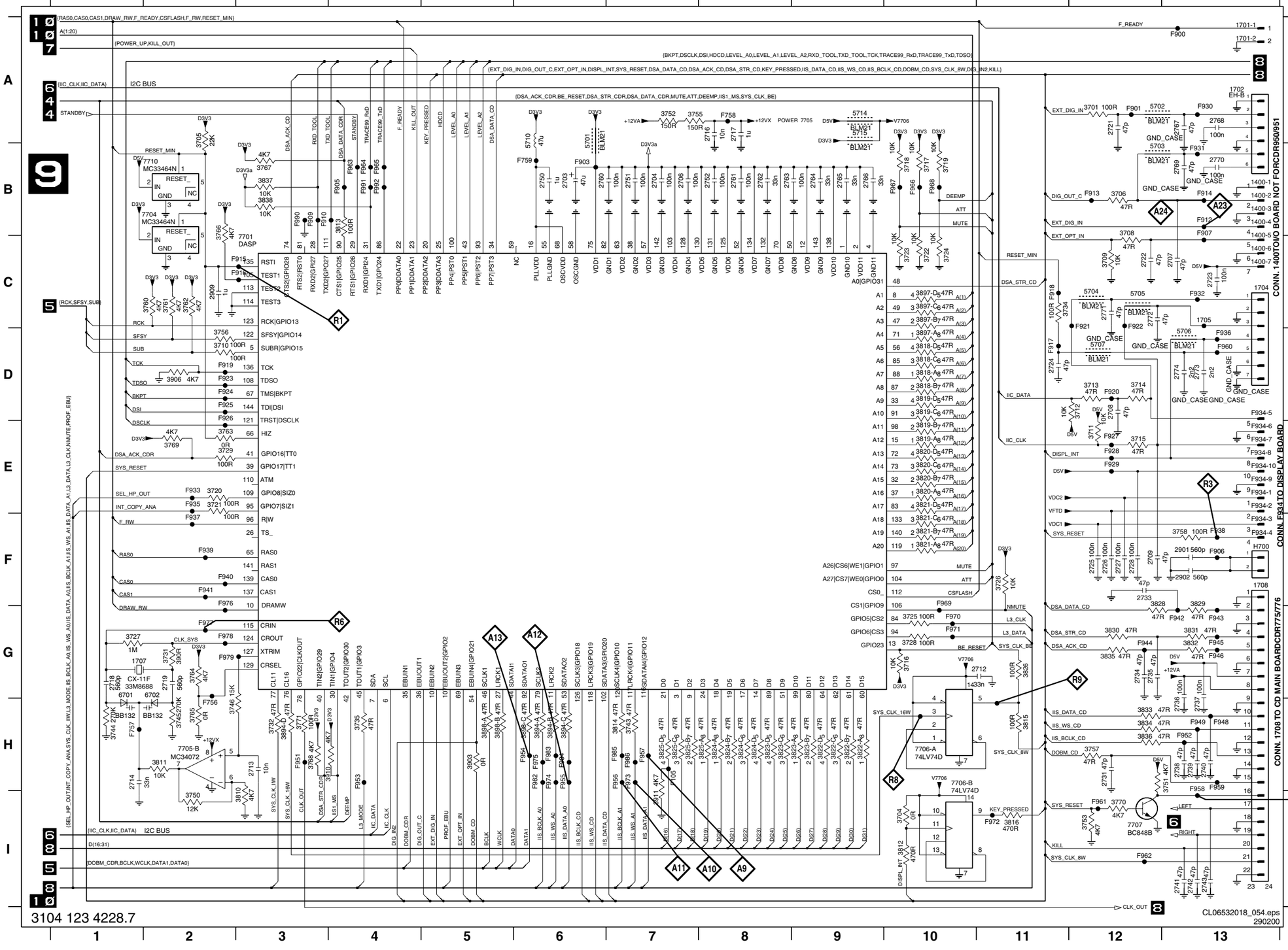
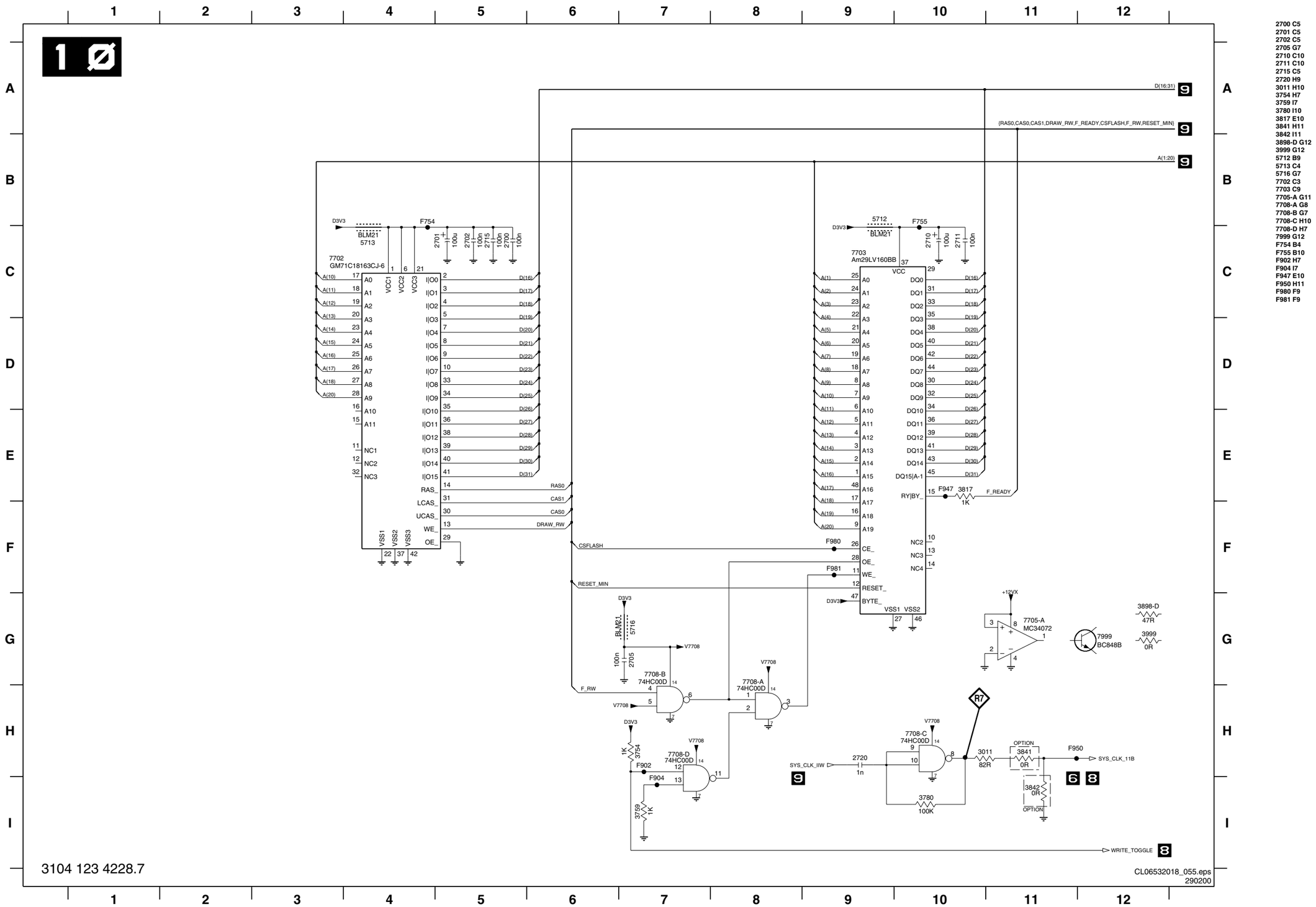
290200

CDR MAIN BOARD - CIRCUIT DIAGRAM 9 : DASP MASTER PROCESSOR TESTPOINTS



1400-1 B13	3768 H3	F928 E12
1400-2 B13	3769 E2	F929 E12
1400-3 B13	3770 I12	F930 A13
1400-4 B13	3771 H3	F931 B13
1400-5 C13	3810 I3	F932 C13
1400-6 C13	3811 H2	F933 E2
1400-7 C13	3812 I10	F934-1 E13
1701-1 A13	3813 B4	F934-10 E13
1701-2 A13	3814 H7	F934-2 E13
1702 A13	3815 H11	F934-3 F13
1704 C13	3816 I11	F934-4 F13
1705 C13	3818-A D10	F934-5 D13
1707 G1	3818-B D10	F934-6 E13
1708 F13	3818-C D10	F934-7 E13
2703 B6	3818-D D10	F934-8 E13
2704 B7	3819-A E10	F934-9 E13
2706 B7	3819-B E10	F935 E2
2707 C13	3819-C D10	F936 D13
2708 D12	3819-D D10	F937 F2
2709 F12	3820-A E10	F938 F13
2712 G11	3820-B E10	F939 F2
2713 H3	3820-C E10	F940 F2
2714 H1	3820-D E10	F941 F2
2716 A8	3821-A F10	F942 G13
2717 A8	3821-B F10	F943 G13
2718 G1	3821-C F10	F944 G12
2719 G2	3821-D E10	F945 G13
2721 A12	3822-A H9	F946 G13
2722 C12	3822-B H9	F948 H13
2723 C13	3822-C H9	F949 H13
2724 D11	3822-D H9	F951 H3
2725 F12	3823-A H9	F952 H13
2726 F12	3823-B H9	F953 H4
2727 F12	3823-C H8	F954 H6
2728 F12	3823-D H8	F955 H6
2731 H12	3824-A H8	F956 H7
2733 F12	3824-B H8	F957 H7
2734 G12	3824-C H8	F958 I13
2735 G12	3824-D H8	F959 H13
2736 H13	3825-A H8	F960 D13
2737 H13	3825-B H7	F961 I12
2738 H13	3825-C H7	F962 I12
2739 H13	3825-D H7	F963 B4
2740 H13	3826 G11	F964 B4
2741 I13	3828 G12	F965 B4
2742 I13	3829 G13	F966 B10
2743 I13	3830 G12	F967 B10
2750 B6	3831 G13	F968 B10
2751 B7	3832 G13	F969 F10
2752 B8	3833 H12	F970 G10
2760 B6	3834 H12	F971 G10
2761 B8	3835 G12	F972 I11
2762 B8	3836 H12	F973 H7
2763 B8	3837 B3	F974 H6
2764 B9	3838 B3	F975 H6
2765 B9	3894-A H6	F976 F2
2766 B9	3894-B H6	F977 G2
2767 A13	3894-C H6	F978 G2
2768 A13	3894-D H3	F979 G2
2769 B13	3897-A D10	F982 H6
2770 B13	3897-B C10	F983 H6
2771 C12	3897-C C10	F984 H6
2772 C12	3897-D C10	F985 H7
2773 D13	3898-A H5	F986 H7
2774 D13	3898-B H5	F990 B3
2901 F13	3898-C H6	F991 B4
2902 F13	3903 H5	F992 B4
2909 C2	3906 D2	H700 F13
3701 A12	3910 H4	
3704 I10	3911 I7	
3705 A2	5701 A6	
3706 B12	5702 A12	
3708 B12	5703 B12	
3709 C12	5704 C12	
3710 D2	5705 C12	
3711 E12	5706 D13	
3712 D12	5707 D12	
3713 D12	5710 A6	
3714 D12	5714 A9	
3715 E12	5715 A9	
3716 G10	6701 G1	
3717 B10	6702 G2	
3718 B10	7701 C3	
3719 B10	7704 B1	
3720 E2	7705-B H2	
3721 E2	7706-A H10	
3722 C10	7706-B H10	
3723 C10	7707 I12	
3724 C10	7710 B1	
3725 G10	F105 H7	
3726 F11	F756 H2	
3727 G1	F757 H1	
3728 G10	F758 A8	
3729 E2	F759 B6	
3731 G2	F900 A13	
3732 H3	F901 A12	
3734 C11	F903 B6	
3735 H4	F905 B4	
3743 H7	F906 F13	
3744 H1	F907 B13	
3745 H2	F909 B3	
3746 H2	F910 B3	
3750 I2	F912 B13	
3751 H13	F913 B12	
3752 A7	F914 B13	
3753 I12	F915 C3	
3755 A7	F916 C3	
3756 D2	F917 D11	
3757 H12	F918 C11	
3758 F13	F919 D2	
3760 C2	F920 D12	
3761 C2	F921 D12	
3762 C2	F922 D12	
3763 E2	F923 D2	
3764 G2	F924 D2	
3765 H2	F925 D2	
3766 B2	F926 D2	
3767 B3	F927 E12	

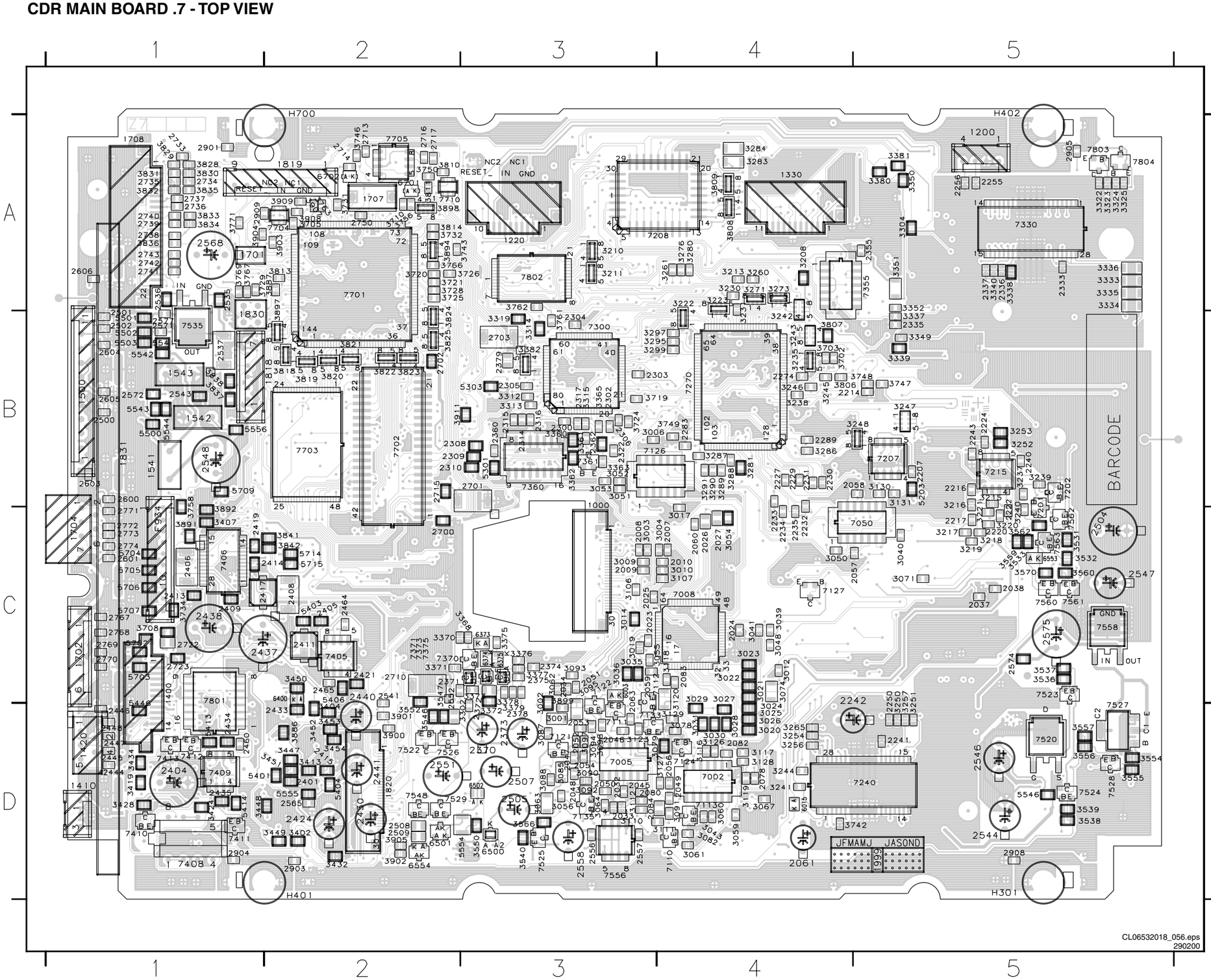
CDR MAIN BOARD - CIRCUIT DIAGRAM 10 : DASP FLASH & DRAM TESTPOINTS



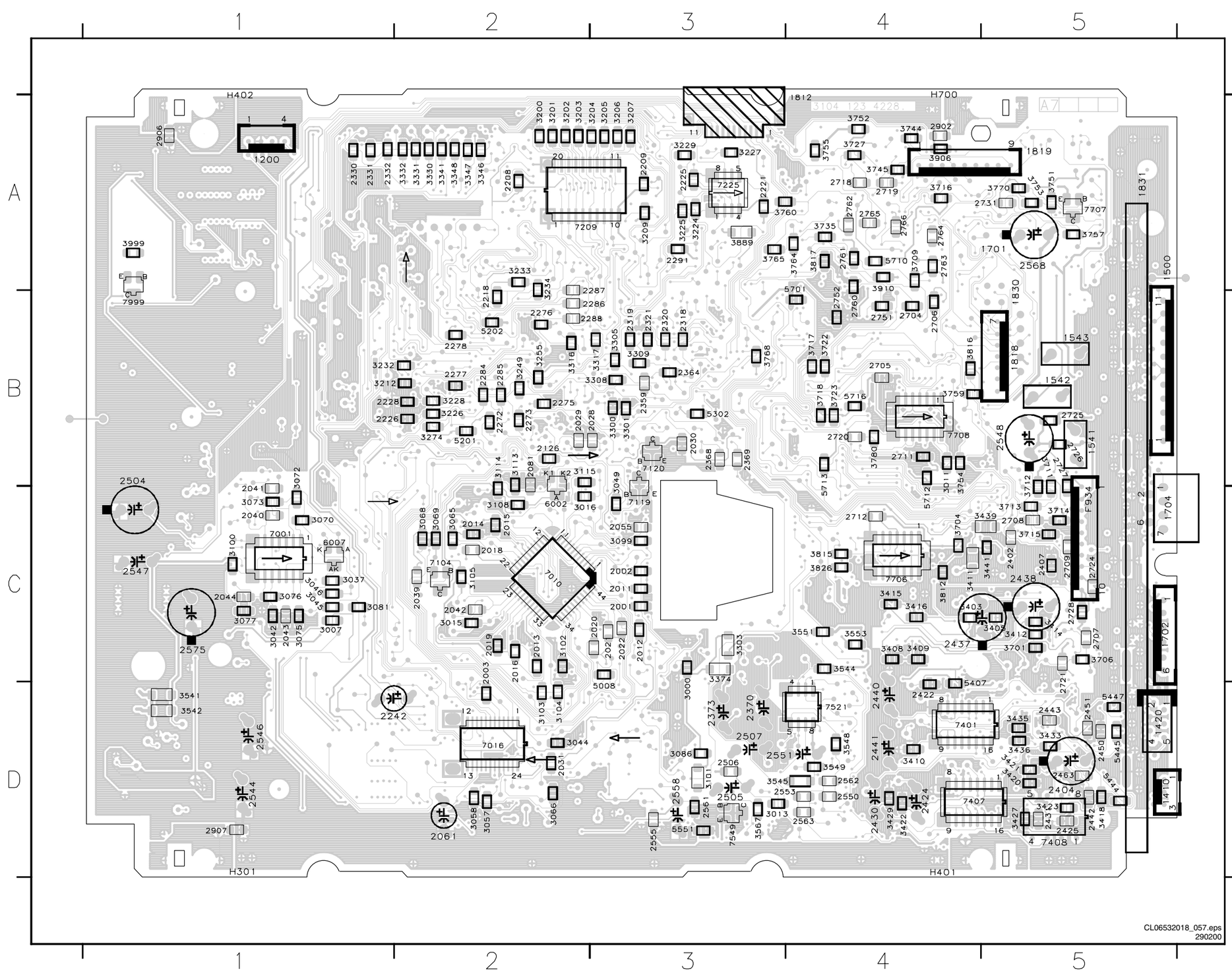
3104 123 4228.7

CL06532018_055.eps
290200

CDR MAIN BOARD .7 - TOP VIEW



CDR MAIN BOARD .7 - BOTTOM VIEW



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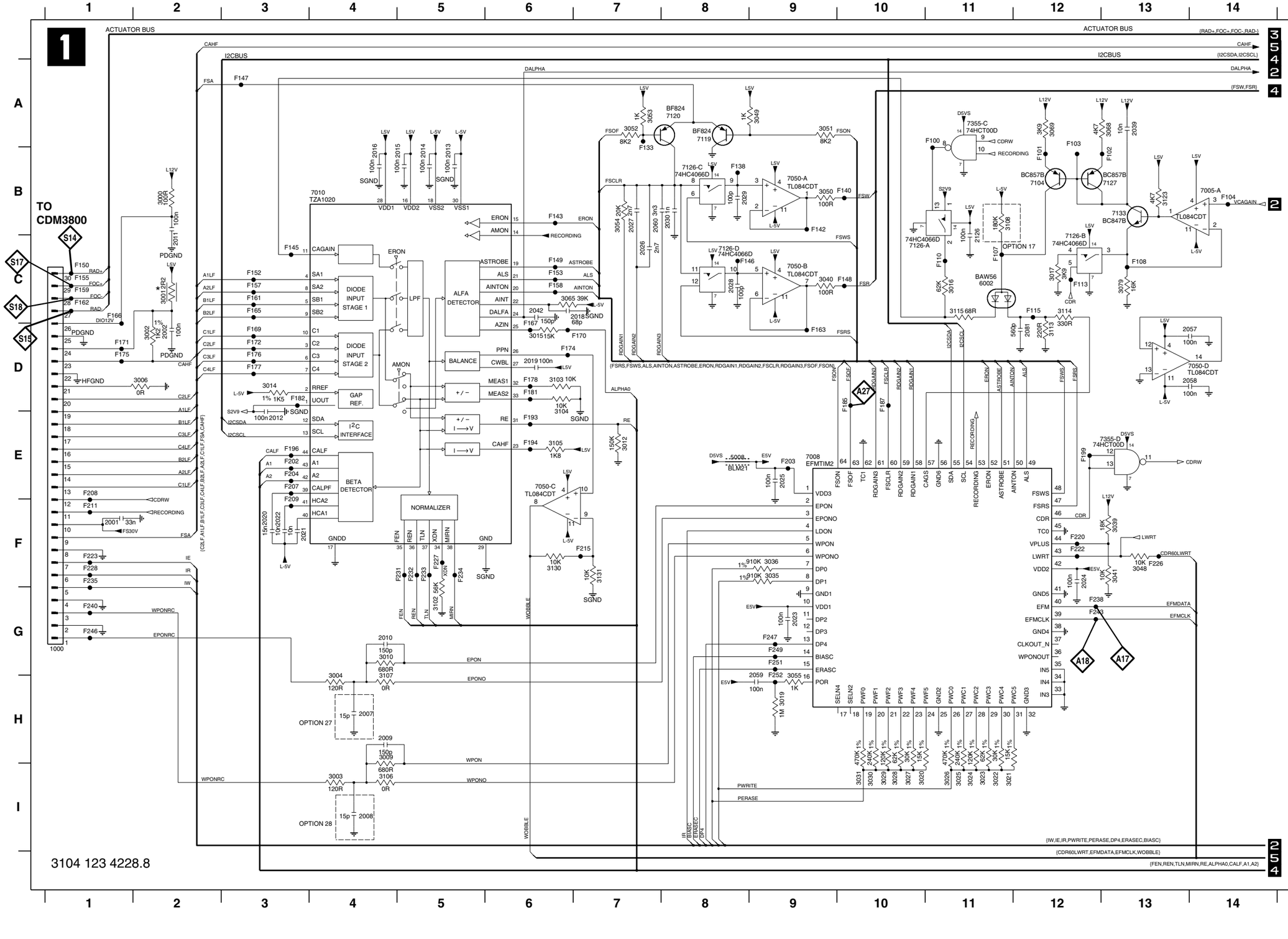
290200

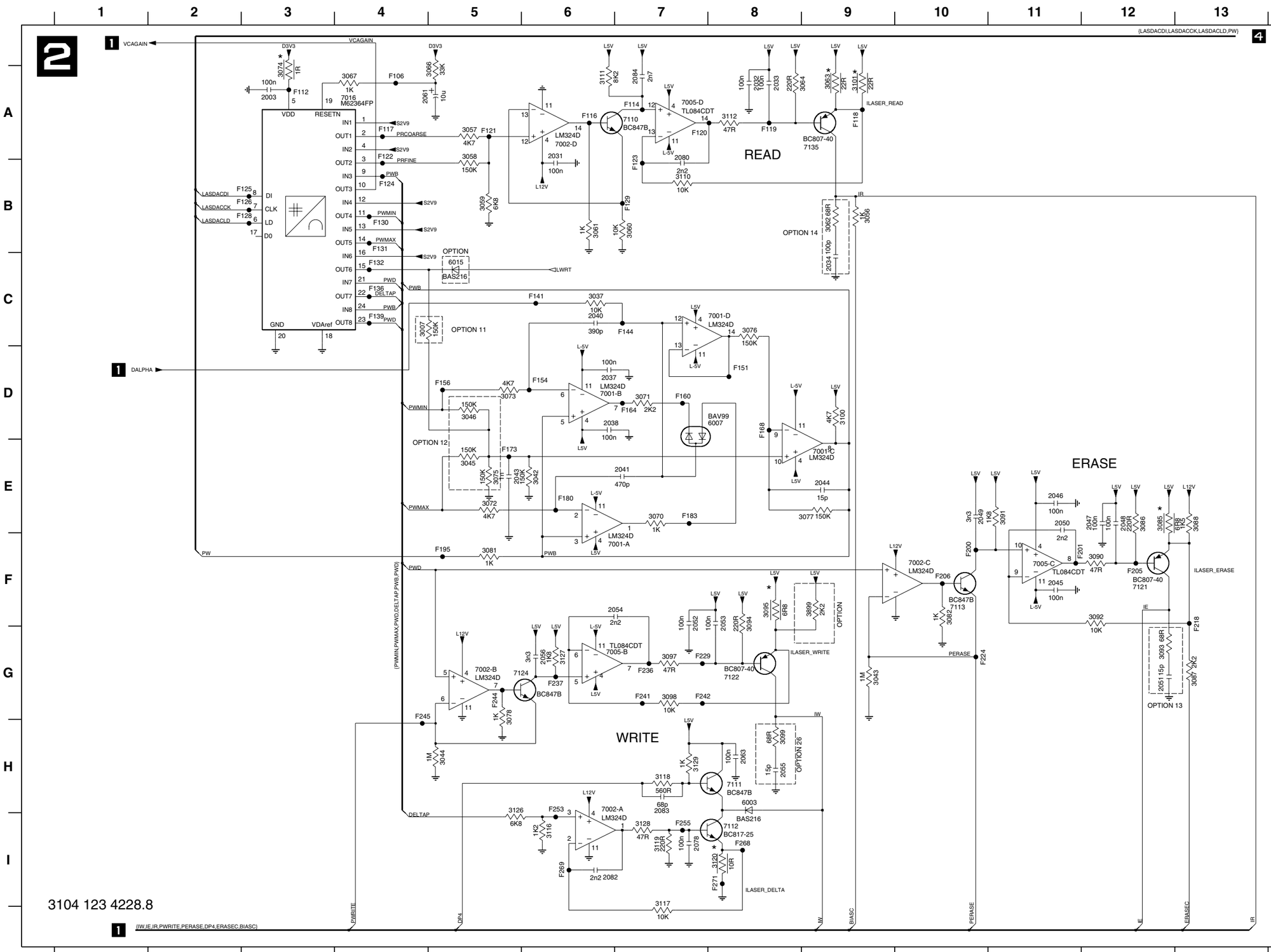
1812	A3	2731	A5	3410	D4	7407	D4
2001	C3	2751	B4	3411	C4	7521	C4
2002	C3	2752	B4	3412	C5	7549	D3
2003	D2	2760	A4	3414	C5	7706	C4
2011	C3	2761	A4	3415	C4	7707	A5
2012	C3	2762	A4	3416	C4	7708	B4
2013	C2	2763	A4	3418	D5	7999	A1
2014	C2	2764	A4	3420	D5		
2015	C2	2765	A4	3421	D5		
2016	C2	2766	A4	3422	D4		
2018	C2	2902	A4	3423	D5		
2019	C2	2906	A1	3427	D5		
2020	C3	2907	D1	3429	D4		
2021	C3	3000	C3	3435	D5		
2022	C3	3007	C1	3436	D5		
2028	B3	3011	B4	3438	D5		
2029	B2	3013	D3	3439	D5		
2030	B3	3015	C2	3441	C5		
2031	D2	3016	C2	3541	D1		
2039	C2	3037	C1	3542	D1		
2040	C1	3042	C1	3544	C4		
2041	C1	3044	D2	3545	D3		
2042	C2	3045	C1	3548	D4		
2043	C1	3046	C1	3549	D4		
2044	C1	3049	C3	3551	C4		
2055	C3	3057	D2	3553	C4		
2081	B2	3058	D2	3567	D3		
2126	B2	3065	C2	3701	C5		
2208	A2	3066	D2	3704	C4		
2209	A3	3068	C2	3706	C5		
2218	B2	3069	C2	3709	A4		
2221	A3	3070	C1	3711	C5		
2225	A3	3072	C1	3712	C5		
2226	B2	3073	C1	3713	C5		
2228	B2	3075	C1	3714	C5		
2272	B2	3076	C1	3715	C5		
2273	B2	3077	C1	3716	A4		
2275	B2	3081	C1	3717	B4		
2276	B2	3086	D3	3718	B4		
2277	B2	3099	C3	3722	B4		
2278	B2	3100	C1	3723	B4		
2284	B2	3101	C1	3725	B4		
2285	B2	3102	C2	3735	A4		
2286	B3	3103	D2	3744	A4		
2287	B3	3104	D2	3745	A4		
2288	B2	3105	C2	3751	A5		
2291	A3	3108	C2	3752	A4		
2318	B3	3113	B2	3753	A5		
2319	B3	3114	B2	3754	B4		
2320	B3	3115	B2	3755	A4		
2321	B3	3200	A2	3757	A5		
2330	A1	3201	A2	3759	B4		
2331	A1	3202	A2	3760	A3		
2332	A1	3203	A2	3764	A4		
2359	B3	3204	A3	3765	A3		
2364	B3	3205	A3	3768	B3		
2368	B3	3206	A3	3770	A5		
2369	C5	3207	A3	3780	B4		
2402	C5	3209	A3	3812	C4		
2407	C5	3212	B1	3815	C4		
2422	D4	3224	A3	3816	B5		
2425	D5	3225	A3	3817	A4		
2431	D5	3226	B2	3826	C4		
2442	D5	3227	A3	3889	A3		
2443	D5	3228	B2	3906	A4		
2450	D5	3229	A3	3910	A4		
2451	D5	3232	B2	3999	A1		
2463	D5	3233	A2	5008	D3		
2506	D3	3234	A2	5201	B2		
2550	D4	3249	B2	5202	B2		
2553	D3	3255	B2	5302	B3		
2555	D3	3274	B2	5407	D4		
2561	D3	3300	B3	5444	D5		
2562	D4	3301	B3	5445	D5		
2563	D4	3303	C3	5447	D5		
2704	B4	3305	C3	5551	D3		
2705	B4	3308	B3	5701	A4		
2706	B4	3309	B3	5710	A4		
2707	C5	3316	B2	5712	B4		
2708	C5	3317	B3	5713	B4		
2709	C5	3330	A2	5716	B4		
2711	B4	3331	A2	6002	B2		
2712	C4	3332	A2	6007	C1		
2718	A4	3341	A2	7001	C1		
2719	A4	3346	A2	7010	C2		
2720	B4	3347	A2	7016	D2		
2721	C5	3348	A2	7104	C2		
2724	C5	3374	C3	7119	C3		
2725	B5	3403	C4	7120	B3		
2726	B5	3405	C5	7209	A2		
2727	B5	3408	C4	7225	A3		
2728	C5	3409	C4	7401	D4		

CDR-Mainboard Version 4228.8

CDR MAIN BOARD - CIRCUIT DIAGRAM 1 : AEGER, EFMTIM, FORWARD SENSE CIRCUIT TESTPOINTS



1000 G1	F110 C11
2001 F1	F113 C12
2002 D2	F115 C12
2007 H4	F133 B7
2008 I4	F138 B8
2009 H4	F140 B10
2010 G4	F142 B9
2011 C2	F143 B6
2012 E3	F145 C3
2013 B5	F146 C8
2014 B5	F147 A3
2015 B4	F148 C10
2016 B4	F149 C6
2018 C7	F150 C1
2019 D6	F152 C3
2020 F3	F153 C6
2021 F3	F155 C1
2022 F3	F157 C3
2023 G9	F158 C6
2024 F12	F159 C1
2025 E9	F161 C3
2026 C7	F162 C1
2027 B7	F163 D9
2028 C8	F165 C3
2029 B8	F166 C1
2030 B8	F167 D6
2039 A13	F169 D3
2042 C6	F170 D7
2057 D14	F171 D1
2058 D14	F172 D3
2059 H9	F174 D6
2060 B7	F175 D1
2081 D12	F176 D3
2126 C11	F177 D3
3000 B2	F178 D6
3001 C2	F181 D6
3002 D2	F182 D3
3003 I4	F185 D10
3004 H4	F187 D10
3006 D2	F193 E6
3009 H4	F194 E6
3010 G4	F196 E3
3012 E7	F199 E12
3014 D3	F202 E3
3015 D6	F203 E9
3016 C11	F204 E3
3017 C12	F207 E3
3019 H9	F208 E1
3020 I10	F209 F3
3021 I11	F211 F1
3022 I11	F215 F7
3023 I11	F220 F12
3024 I11	F222 F12
3025 I11	F223 F1
3026 I11	F226 F13
3027 I10	F227 F5
3028 I10	F228 F1
3029 I10	F231 F4
3030 I10	F232 F5
3031 I10	F233 F5
3035 F9	F234 F5
3036 F9	F235 F1
3039 F13	F238 G12
3040 C9	F240 G1
3041 F13	F243 G12
3048 F13	F246 G1
3049 A9	F247 G9
3050 B9	F249 G9
3051 A9	F251 G9
3052 A7	F252 H9
3053 A7	
3054 B7	
3055 H9	
3065 C6	
3068 A13	
3069 A12	
3079 C13	
3102 G5	
3103 D6	
3104 E6	
3105 E6	
3106 I4	
3107 H4	
3108 B11	
3113 D12	
3114 C12	
3115 C11	
3123 B13	
3130 F6	
3131 F7	
5008 E8	
6002 C11	
7005-A B14	
7008 E9	
7010 B4	
7050-A B9	
7050-B C9	
7050-C E6	
7050-D D13	
7104 B12	
7119 A8	
7120 A8	
7126-A C11	
7126-B C12	
7126-C B8	
7126-D C8	
7127 B13	
7133 B13	
7355-C A11	
7355-D E12	
F100 A11	
F101 B12	
F102 B13	
F103 A12	
F104 B14	
F107 C11	
F108 C13	



3104 123 4228.8

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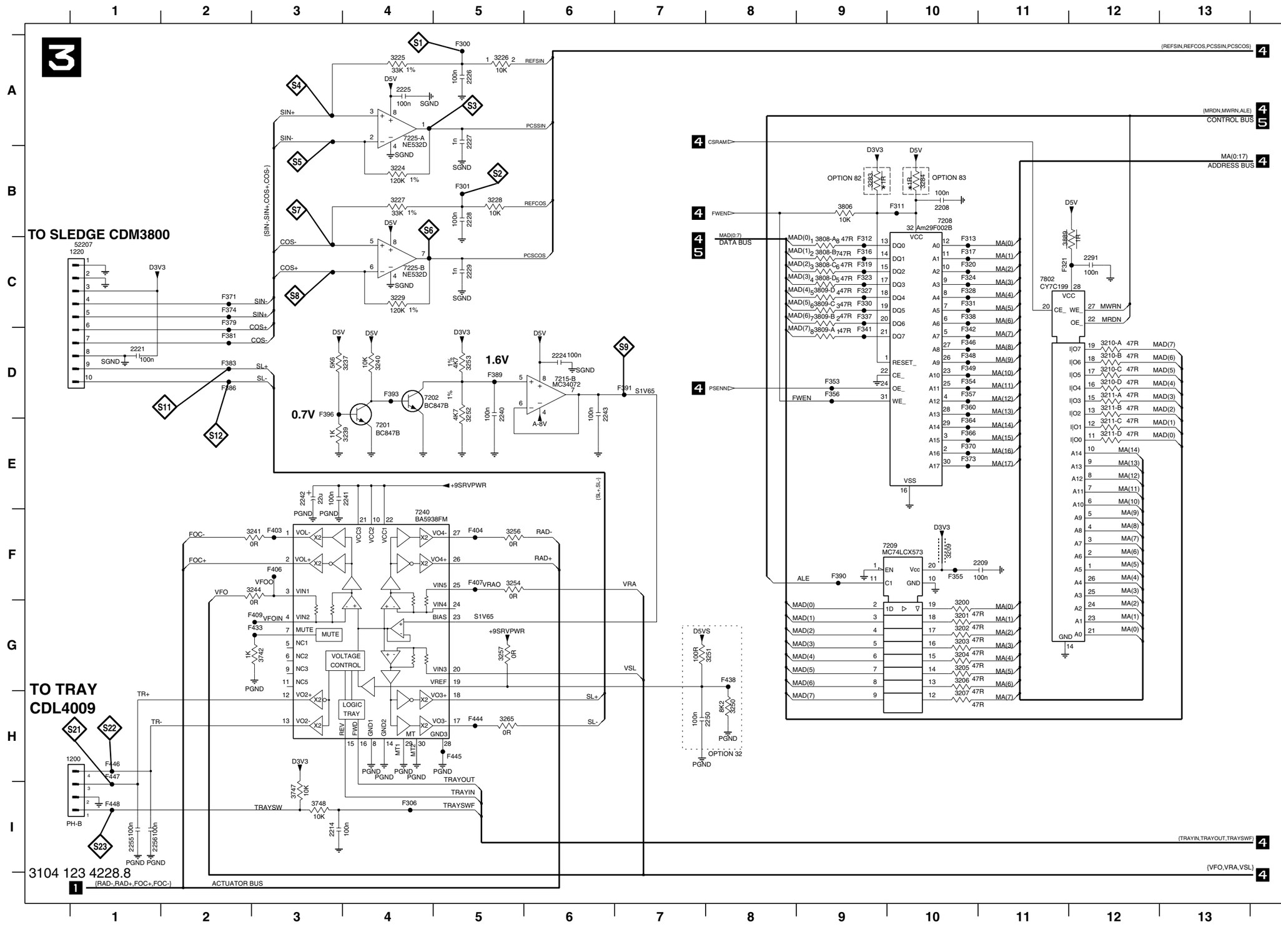
010300

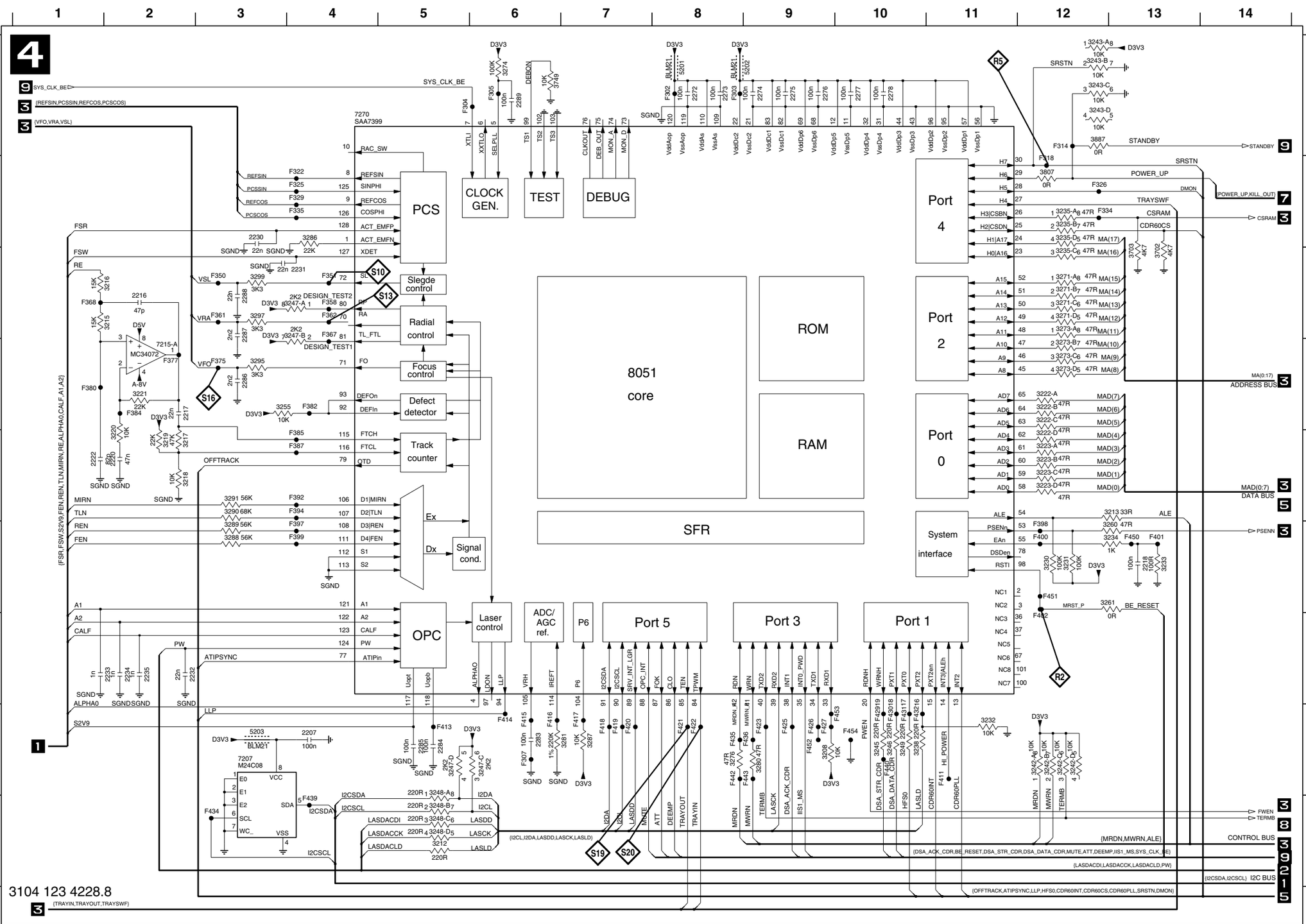
2003 A3
2031 A6
2032 A8
2033 A8
2034 C9
2037 D6
2038 D6
2040 C6
2041 E7
2043 E5
2044 E9
2045 F11
2046 E11
2047 E12
2048 E12
2049 E10
2050 E11
2051 G12
2052 F7
2053 F8
2054 F7
2055 H8
2056 G6
2061 A4
2063 H8
2078 I7
2080 B7
2082 I6
2083 H7
2084 A7
3007 C4
3037 C6
3042 E6
3043 G9
3044 H5
3045 E5
3046 D5
3056 B9
3057 A5
3058 A5
3059 B5
3060 B7
3061 B6
3062 B9
3063 A9
3064 A8
3066 A5
3067 A4
3070 E7
3071 D7
3072 E5
3073 D5
3074 A3
3075 E5
3076 C8
3077 E9
3078 G5
3081 F5
3082 F10
3085 E12
3086 E12
3087 G13
3088 E13
3090 F12
3091 E11
3092 F12
3093 G12
3094 F8
3095 F8
3097 G7
3098 G7
3099 H8
3100 D9
3101 A9
3110 B7
3111 A6
3112 A8
3116 I6
3117 I7
3118 H7
3119 I7
3120 I8
3126 H5
3127 G6
3128 I7
3129 H7
3899 F9
6003 H8
6007 D8
6015 C5
7001-A F6
7001-B D6
7001-C E9
7001-D C8
7002-A H6
7002-B G5
7002-C F10
7002-D A6
7005-B G6
7005-C F11
7005-D A7
7016 A4
7110 A7
7111 H8
7112 I8
7113 F10
7121 F12
7122 G8
7124 G5
7135 A9
F106 A4
F112 A3
F114 A7
F116 A6
F117 A4
F118 A9
F119 A8
F120 A7
F121 A5
F122 A4
F123 B7
F124 B4
F125 B3
F126 B3
F128 B3
F129 B7
F130 B4
F131 B4
F132 C4
F136 C4
F139 C4
F141 C6
F144 C7
F151 D8
F154 D6
F156 D5
F160 D7
F164 D7
F168 D8
F173 E5
F180 E6
F183 E7
F195 F5
F200 F10
F201 F11
F205 F12
F206 F10
F218 F13
F224 G10
F229 G7
F236 G7
F237 G6
F241 G7
F242 G7
F244 G5
F245 G4
F253 H6
F255 I7
F268 I8
F269 I6
F271 I8

CDR MAIN BOARD - CIRCUIT DIAGRAM 3 : SERVO DRIVERS, MACE-RAM, -FLASH, -DEMUX TEST POINTS



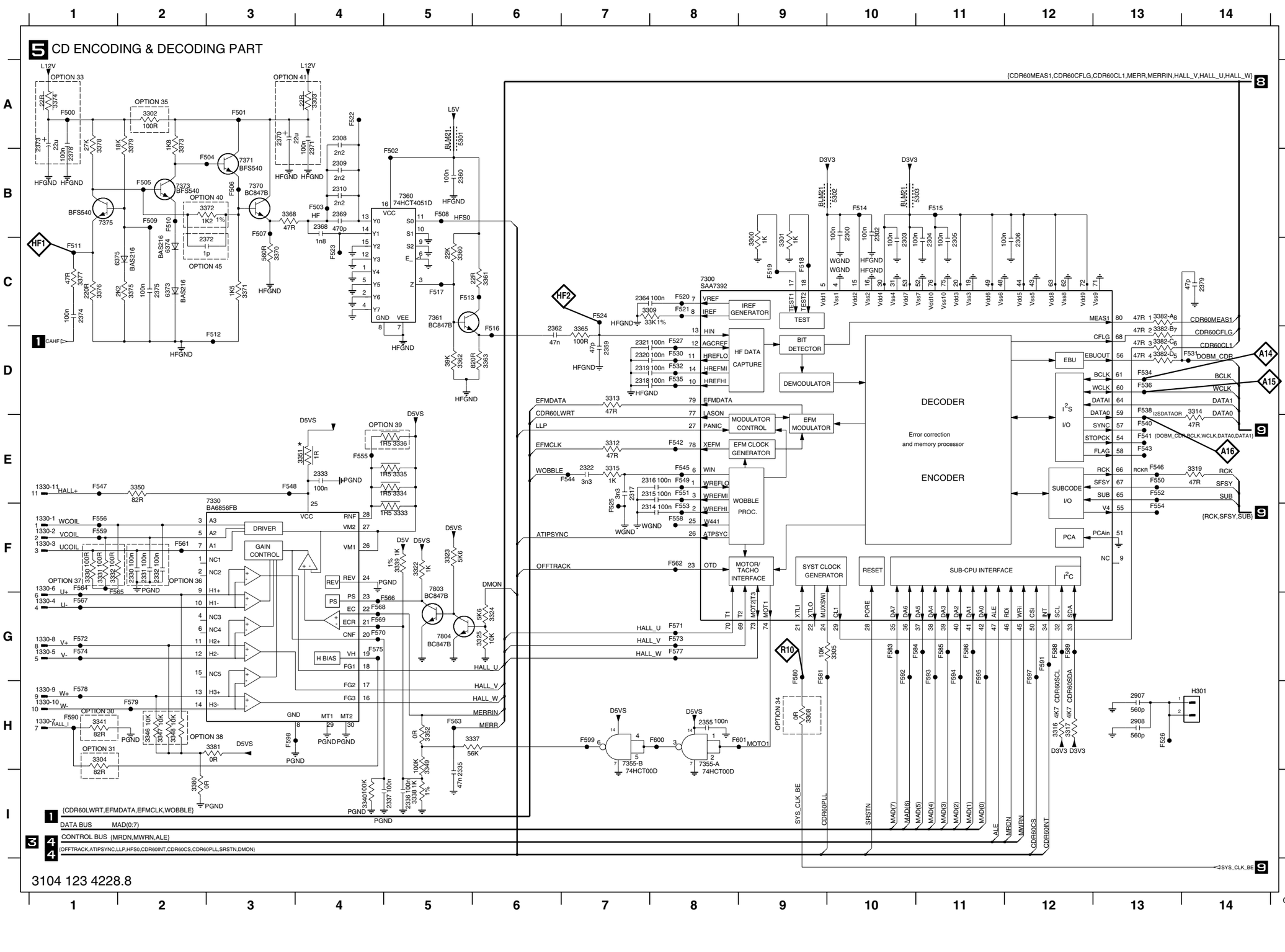
1200 H1
1220 C1
2208 B10
2209 F11
2214 I3
2221 D1
2224 D6
2225 A4
2226 A5
2227 A5
2228 B5
2229 C5
2240 D5
2241 E4
2242 E3
2243 D6
2250 H7
2255 I1
2256 I1
2291 C12
3200 G10
3201 G10
3202 G10
3203 G10
3204 G10
3205 G10
3206 G10
3207 H10
3209 F10
3210-A D12
3210-B D12
3210-C D12
3210-D D12
3211-A D12
3211-B D12
3211-C E12
3211-D E12
3224 B4
3225 A4
3226 A5
3227 B4
3228 B5
3229 C4
3237 D4
3239 E4
3240 D4
3241 F3
3244 F3
3250 H8
3251 G8
3252 D5
3253 D5
3254 F5
3256 F5
3257 G5
3265 H5
3283 B9
3284 B10
3742 G3
3747 I3
3748 I3
3806 B9
3808-A C9
3808-B C9
3808-C C9
3808-D C9
3809-A C9
3809-B C9
3809-C C9
3809-D C9
3889 C11
7201 E4
7202 D4
7208 B10
7209 F9
7215-B D6
7225-A A4
7225-B C4
7240 F4
7802 C11
F300 A5
F301 B5
F306 I4
F311 B10
F312 C9
F313 C10
F316 C9
F317 C10
F319 C9
F320 C10
F321 C11
F323 C9
F324 C10
F327 C9
F328 C10
F330 C9
F331 C10
F337 C9
F338 C10
F341 D9
F342 D10
F346 D10
F348 D10
F349 D10
F353 D9
F354 D10
F355 F10
F356 D9
F357 D10
F360 D10
F364 E10
F366 E10
F370 E10
F371 C2
F373 E10
F374 C2
F379 C2
F381 D2
F383 D2
F386 D2
F389 D5
F390 F9
F391 D7
F393 D4
F396 D3
F403 F3
F404 F5
F406 F3
F407 F5
F409 G3
F433 G3
F438 G8
F444 H5
F445 H5
F446 H1
F447 H1
F448 I1

CDR MAIN BOARD - CIRCUIT DIAGRAM 4 : MACE BE-PROCESSOR TESTPOINTS



2207 H4	F326 B12
2216 C2	F329 B4
2217 D2	F334 B12
2218 F13	F335 B4
2220 E2	F350 C3
2222 E1	F351 C4
2230 B3	F358 C4
2231 C4	F361 C3
2232 G2	F362 C4
2233 G2	F367 C4
2234 G2	F368 C1
2235 G2	F375 D3
2272 A8	F377 D2
2273 A8	F380 D1
2274 A9	F382 D4
2275 A9	F384 D2
2276 A9	F385 E4
2277 A10	F387 E4
2278 A10	F392 E4
2283 H6	F394 E4
2284 H5	F397 F4
2285 H5	F398 F12
2286 D3	F399 F4
2287 C3	F400 F12
2288 C3	F401 F13
2289 A6	F402 G12
3208 H9	F411 H11
3212 I5	F413 H5
3213 E13	F414 H6
3215 C2	F415 H6
3216 C2	F416 H6
3217 E2	F417 H7
3218 E2	F418 H7
3219 E2	F419 H7
3220 E2	F420 H7
3221 D2	F421 H8
3222-A D12	F422 H8
3222-B D12	F423 H9
3222-C D12	F425 H9
3222-D E12	F426 H9
3223-A E12	F427 H9
3223-B E12	F429 H10
3223-C E12	F430 H10
3223-D E12	F431 H10
3230 F12	F432 H10
3231 F12	F434 I3
3232 H11	F435 H8
3233 F13	F436 H9
3234 F13	F439 I4
3235-A B12	F440 H10
3235-B B12	F442 H8
3235-C C12	F443 H9
3235-D B12	F450 F13
3238 H10	F451 F12
3242-A H12	F452 H9
3242-B H12	F453 H9
3242-C H12	F454 H10
3242-D H12	
3243-A A12	
3243-B A12	
3243-C A12	
3243-D A12	
3245 H10	
3246 H10	
3247-A C4	
3247-B C4	
3247-C H6	
3247-D H5	
3248-A H5	
3248-B I5	
3248-C I5	
3248-D I5	
3249 H10	
3255 D3	
3260 F13	
3261 F12	
3271-A C12	
3271-B C12	
3271-C C12	
3271-D C12	
3273-A C12	
3273-B D12	
3273-C D12	
3273-D D12	
3274 A6	
3276 H8	
3280 H9	
3281 H7	
3286 B4	
3287 H7	
3288 F3	
3289 F3	
3290 E3	
3291 E3	
3295 D3	
3297 C3	
3299 C3	
3702 C13	
3703 C13	
3749 A6	
3807 B12	
3887 A12	
5201 A8	
5202 A9	
5203 H3	
7207 H3	
7215-A D2	
7270 A4	
F302 A8	
F303 A8	
F304 A5	
F305 A6	
F307 H6	
F314 A12	
F318 B12	
F322 B4	
F325 B4	

CDR MAIN BOARD - CIRCUIT DIAGRAM 5 : CD ENCODING-DECODING PART



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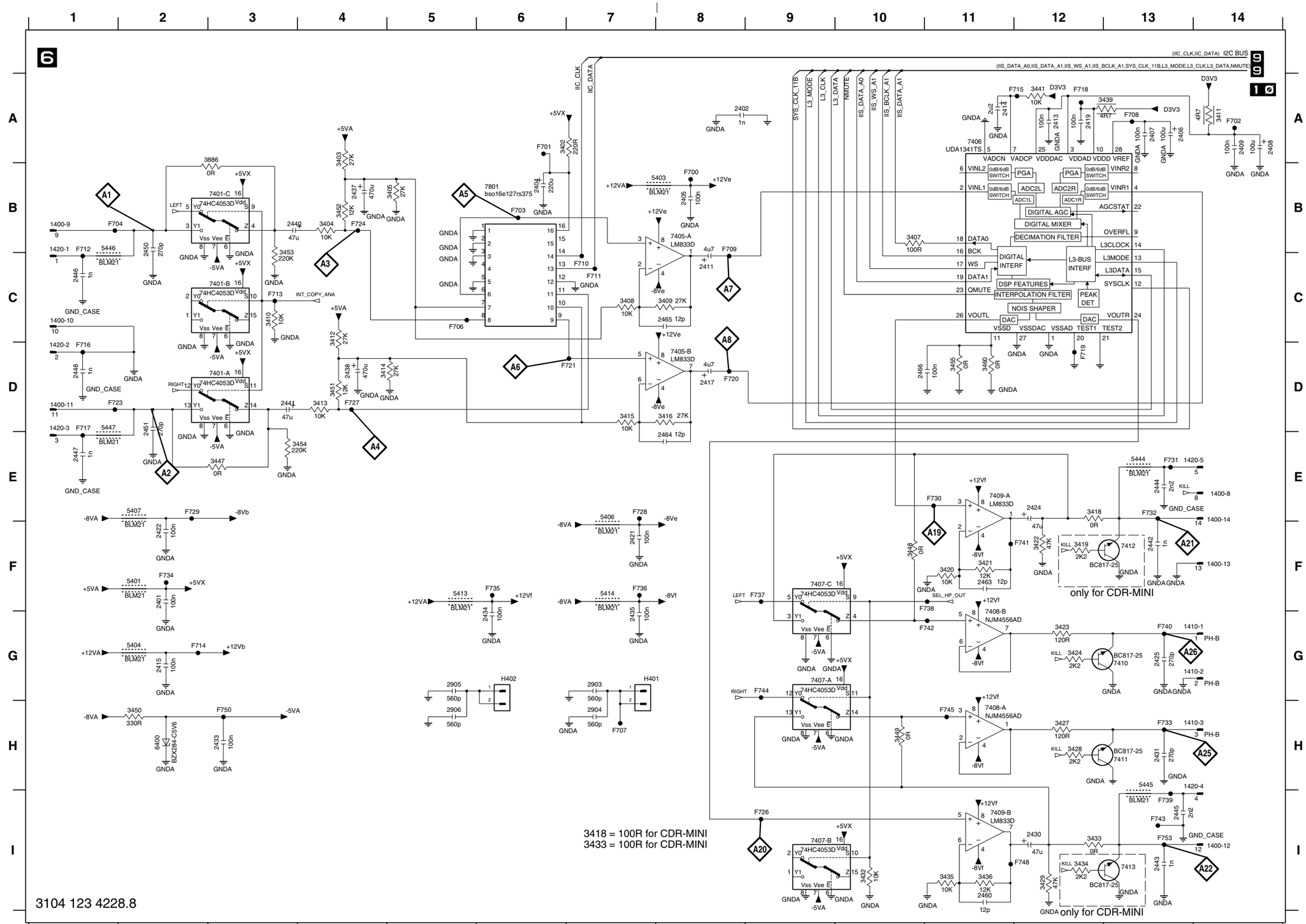
1330-1 F1	6373 C2	2379 C14	7355-A H8
1330-10 H1	6374 C2	2907 H13	7355-B H7
1330-11 E1	6375 C2	2908 H13	7360 B5
1330-2 F1	7300 C8	3300 C9	7361 C5
1330-3 F1	7330 E3	3301 C9	7370 B3
1330-4 G1	7355-A H8	3302 A2	7371 B3
1330-5 G1	7355-B H7	3303 A4	7373 B2
1330-6 F1	7360 B5	3304 H1	7375 B1
1330-7 H1	7361 C5	3305 G10	7803 F5
1330-8 G1	7370 B3	3308 H9	7804 G5
1330-9 H1	7371 B3	3309 C7	7805 A1
2300 B10	7373 B2	3312 E7	7806 B5
2302 B10	7375 B1	3313 D7	7807 B5
2303 C10	7803 F5	3314 D14	7808 B5
2304 C11	7804 G5	3315 E7	7809 B2
2305 C11	7805 A1	3316 H12	7810 B2
2306 C12	7806 A3	3317 H12	7811 C1
2308 A4	7807 B5	3319 E14	7812 D3
2309 B4	7808 B5	3322 F5	7813 C5
2310 B4	7809 B2	3323 F5	7814 B10
2314 F7	7810 B2	3324 G6	7815 B11
2315 E7	7811 C1	3325 G6	7816 D6
2316 E7	7812 D3	3330 F1	7817 C5
2317 E7	7813 C5	3331 F1	7818 C9
2318 D7	7814 B10	3332 F1	7819 C9
2319 D7	7815 B11	3333 F5	7820 C8
2320 D7	7816 D6	3334 E5	7821 C8
2321 D7	7817 C5	3335 E5	7822 A4
2322 E7	7818 C9	3336 E5	7823 C4
2330 F2	7819 C9	3337 H6	7824 C7
2331 F2	7820 C8	3338 I5	7825 F7
2332 F2	7821 C8	3339 F5	7826 H13
2333 E4	7822 A4	3340 I4	7827 D8
2335 H5	7823 C4	3341 H1	7830 D8
2336 I5	7824 C7	3346 H2	7831 D14
2337 I5	7825 F7	3347 H2	7832 D8
2355 H8	7826 H13	3348 H2	7834 D13
2359 D7	7827 D8	3349 H5	7836 D13
2360 B5	7830 D8	3350 E2	7839 E13
2362 D6	7831 D14	3351 E4	7840 E13
2364 C7	7832 D8	3352 H5	7841 E13
2368 B4	7834 D13	3360 C5	7842 E8
2369 B4	7836 D13	3361 C6	7843 E13
2370 A3	7839 E13	3365 D5	7844 E7
2371 A4	7840 E13	3368 B3	7845 E8
2372 C3	7841 E13	3370 C3	7846 E13
2373 A1	7842 E8	3371 C3	7847 E1
2374 C1	7843 E13	3372 B3	7848 E3
2375 C2	7844 E7	3373 A2	7849 E8
2378 B1	7845 E8	3374 A1	7850 E13
2379 C14	7846 E13	3375 C2	7851 E8
2907 H13	7847 E1	3376 C1	7852 E13
2908 H13	7848 E3	3377 C1	7853 F8
3300 C9	7849 E8	3378 A1	7854 F13
3301 C9	7850 E13	3379 A2	7855 E4
3302 A2	7851 E8	3380 I2	7856 F1
3303 A4	7852 E13	3381 H3	7858 F8
3304 H1	7853 F8	3382-A C13	7859 F1
3305 G10	7854 F13	3382-B D13	7861 F2
3308 H9	7855 E4	3382-C D13	7862 F8
3309 C7	7856 F1	3382-D D13	7863 H5
3312 E7	7858 F8	5301 A5	7864 F1
3313 D7	7859 F1	5302 B10	7865 G1
3314 D14	7861 F2	5303 B10	7866 G5
3315 E7	7862 F8	6373 C2	7867 G1
3316 H12	7863 H5	6374 C2	7868 G4
3317 H12	7864 F1	6375 C2	7869 G4
3319 E14	7865 G1	7300 C8	7871 G8
3322 F5	7866 G5	7330 E3	7872 G1
3323 F5	7867 G1	7355-A H8	7873 G8
3324 G6	7868 G4	7355-B H7	7874 G1
3325 G6	7869 G4	7360 B5	7875 G4
3330 F1	7871 G8	7361 C5	7877 G8
3331 F1	7872 G1	7370 B3	7878 H1
3332 F1	7873 G8	7371 B3	7879 H2
3333 F5	7874 G1	7373 B2	7880 G9
3334 E5	7875 G4	7375 B1	7881 G9
3335 E5	7877 G8	7803 F5	7883 G10
3336 E5	7878 H1	7804 G5	7884 G11
3337 H6	7879 H2	7805 A1	7885 G11
3338 I5	7880 G9	7806 A3	7886 G11
3339 F5	7881 G9	7807 B5	7888 G12
3340 I4	7883 G10	7808 B5	7889 G12
3341 H1	7884 G11	7809 B2	7890 H1
3346 H2	7885 G11	7810 B2	7891 G12
3347 H2	7886 G11	7811 C1	7892 G10
3348 H2	7888 G12	7812 D3	7893 G11
3349 H5	7889 G12	7813 C5	7894 G11
3350 E2	7890 H1	7814 B10	7895 G11
3351 E4	7891 G12	7815 B11	7896 G11
3352 H5	7892 G10	7816 D6	7897 G12
3360 C5	7893 G11	7817 C5	7898 H3
3361 C6	7894 G11	7818 C9	7899 H7
3362 D5	7895 G11	7819 C9	7900 H8
3363 D6	7896 G11	7820 C8	7901 H9
3365 D7	7897 G12	7821 C8	7902 H14
3368 B3	7898 H3	7822 A4	
3370 C3	7899 H7	7823 C4	
3371 C3	7900 H8	7824 C7	
3372 B3	7901 H9	7825 F7	
3373 A2	7902 H14	7826 H13	
3374 A1	8 I2	7827 D8	
3375 C2	8381 H3	7830 D8	
3376 C1	3382-A C13	7831 D14	
3377 C1	3382-B D13	7832 D8	
3378 A1	3382-C D13	7834 D13	
3379 A2	3382-D D13	7836 D13	
3380 I2	5301 A5	7839 E13	
3381 H3	5302 B10	7840 E13	
3382-A C13	5303 B10	7841 E13	
3382-B D13	6373 C2	7842 E8	
3382-C D13	6374 C2	7843 E13	
3382-D D13	6375 C2	7844 E7	
5301 A5	7300 C8	7845 E8	
5302 B10	7330 E3	7846 E13	
5303 B10	7355-A H8	7847 E1	
6373 C2	7355-B H7	7848 E3	
6374 C2	7360 B5	7849 E8	
6375 C2	7361 C5	7850 E13	
7300 C8	7370 B3	7851 E8	
7330 E3	7371 B3	7852 E13	
7355-A H8	7373 B2	7853 F8	
7355-B H7	7375 B1	7854 F13	
7360 B5	7803 F5	7855 E4	
7361 C5	7804 G5	7856 F1	
7370 B3	7805 A1	7858 F8	
7371 B3	7806 A3	7859 F1	
7373 B2	7807 B5	7861 F2	
7375 B1	7808 B5	7862 F8	
7803 F5	7809 B2	7863 H5	
7804 G5	7810 B2	7864 F1	
7805 A1	7811 C1	7865 G1	
7806 A3	7812 D3	7866 G5	
7807 B5	7813 C5	7867 G1	
7808 B5	7814 B10	7868 G4	
7809 B2	7815 B11	7869 G4	
7810 B2	7816 D6	7871 G8	
7811 C1	7817 C5	7872 G1	
7812 D3	7818 C9	7873 G8	
7813 C5	7819 C9	7874 G1	
7814 B10	7820 C8	7875 G4	
7815 B11	7821 C8	7877 G8	
7816 D6	7822 A4	7878 H1	
7817 C5	7823 C4	7879 H2	
7818 C9	7824 C7	7880 G9	
7819 C9	7825 F7	7881 G9	
7820 C8	7826 H13	7883 G10	
7821 C8	7827 D8	7884 G11	
7822 A4	7830 D8	7885 G11	
7823 C4	7831 D14	7886 G11	
7824 C7	7832 D8	7888 G12	
7825 F7	7834 D13	7889 G12	
7826 H13	7836 D13	7890 H1	
7827 D8	7839 E13	7891 G12	
7830 D8	7840 E13	7892 G10	
7831 D14	7841 E13	7893 G11	
7832 D8	7842 E8	7894 G11	
7834 D13	7843 E13	7895 G11	
7836 D13	7844 E7	7896 G11	
7839 E13	7845 E8	7897 G12	
7840 E13	7846 E13	7898 H3	
7841 E13	7847 E1	7899 H7	
7842 E8	7848 E3	7900 H8	
7843 E13	7849 E8	7901 H9	
7844 E7	7850 E13	7902 H14	
7845 E8	7851 E8		
7846 E13	7852 E13		
7847 E1	7853 F8		
7848 E3	7854 F13		
7849 E8	7855 E4		
7850 E13	7856 F1		
7851 E8	7858 F8		
7852 E13	7859 F1		
7853 F8	7861 F2		
7854 F13	7862 F8		
7855 E4	7863 H5		
7856 F1	7864 F1		
7858 F8	7865 G1		
7859 F1	7866 G5		
7861 F2	7867 G1		
7862 F8	7868 G4		
7863 H5	7869 G4		
7864 F1	7871 G8		
7865 G1	7872 G1		
7866 G5	7873 G8		
7867 G1	7874 G1		
7868 G4	7875 G4		
7869 G4	7877 G8		
7871 G8	7878 H1		
7872 G1	7879 H2		
7873 G8	7880 G9		
7874 G1	7881 G9		
7875 G4	7883 G10		
7877 G8	7884 G11		
7878 H1	7885 G11		
7879 H2	7886 G11		
7880 G9	7888 G12		
7881 G9	7889 G12		
7883 G10	7890 H1		
7884 G11	7891 G12		
7885 G11	7892 G10		
7886 G11	7893 G11		
7888 G12	7894 G11		
7889 G12	7895 G11		
7890 H1	7896 G11		
7891 G12	7897 G12		
7892 G10	7898 H3		
7893 G11	7899 H7		
7894 G11	7900 H8		
7895 G11	7901 H9		
7896 G11	7902 H14		
7897 G12			
7898 H3			
7899 H7			
7900 H8			
7901 H9			
7902 H14			

CDR MAIN BOARD - CIRCUIT DIAGRAM 6 : AUDIO PART (NOT FOR CDR950/951)



1400-10 C1
1400-11 D1
1400-12 I14
1400-13 F14
1400-14 F14
1400-8 E14
1400-9 B1
1410-1 G14
1410-2 G14
1410-3 H14
1420-1 B1
1420-2 D1
1420-3 D1
1420-4 H14
1420-5 E14
2401 F2
2402 A8
2404 B6
2405 B8
2406 A13
2407 A13
2408 A14
2409 A14
2411 C8
2413 A12
2414 A11
2415 G2
2417 D8
2419 A12
2421 F7
2422 F2
2424 E12
2425 G13
2430 I12
2431 H13
2433 H3
2434 G6
2435 G7
2437 B4
2438 D4
2440 B3
2441 D3
2442 F13
2443 I13
2444 E13
2445 I13
2446 C1
2447 E1
2448 D1
2450 B2
2451 D2
2460 I11
2463 F11
2464 E8
2465 C8
2466 D10
2903 G7
2904 H7
2905 G5
2906 H5
3402 A6
3403 A4
3404 B4
3405 B5
3407 B10
3408 C7
3409 C8
3410 C3
3411 A14
3412 C4
3413 D4
3414 D4
3415 D7
3416 D8
3418 E12
3419 F12
3420 F11
3421 F11
3422 F12
3423 G12
3424 G12
3427 H12
3428 H12
3429 I12
3432 I10
3433 I12
3434 I12
3435 I11
3436 I11
3439 A13
3441 A12
3447 E3
3448 F10
3449 H10
3450 H2
3451 D4
3452 B4
3453 B3
3454 E4
3455 D11
3460 D11
3886 A3
5401 F2
5403 B8
5404 G2
5406 E7
5407 E2
5413 F5
5414 F7
5444 E13
5445 H13
5446 B1
5447 D1
6400 H2
7401-A D3
7401-B C3
7401-C B3
7405-A B8
7405-B D8
7406 A11
7407-A G9
7407-B I9
7407-C F9
7408-A H11
7408-B G11
7409-A E11
7409-B I11
7410 G13
7411 H13
7412 F13
7413 I13
7801 B6
F700 B8
F701 A6
F702 A14
F703 B6
F704 B1
F706 C5
F707 H7
F708 A13
F709 B8
F710 C7
F711 C7
F712 B1
F713 C3
F714 G2
F715 A12
F716 D1
F717 D1
F718 A12
F719 D12
F720 D8
F721 D7
F723 D1
F724 B4
F726 I9
F727 D4
F728 E7
F729 E2
F730 E11
F731 E13
F732 E13
F733 H13
F734 F2
F735 F6
F736 F7
F737 F9
F738 F11
F739 I13
F740 G13
F741 F12
F742 G11
F743 I13
F744 G11
F745 H12
F748 I12
F750 H3
F753 I13
H401 G7
H402 G6

CDR MAIN BOARD - CIRCUIT DIAGRAM 7 : POWER PART TESTPOINTS

7 POWER PART

TO DISPLAY BOARD

FROM PSU

3104 123 4228.8

9 4 {POWER_UP,KILL_OUT}

CL06532018_065.eps
010300

1500 D1	7563 C12	2504 A12	F497 H11
1541 D4	F491 H5	2505 H12	F498 H10
1542 A4	F492 H9	2506 H12	F499 H9
1543 B4	F493 I7	2507 H10	F800 A6
2500 E2	F494 I8	2508 I8	F801 A12
2501 F1	F495 I9	2509 I8	F802 A6
2502 F2	F496 H8	2535 B5	F803 B13
2504 A12	F497 H11	2536 B4	F804 B14
2505 H12	F498 H10	2537 B5	F805 B6
2506 H12	F499 H9	2541 D5	F806 C8
2507 H10	F800 A6	2543 B4	F807 C8
2508 I8	F801 A12	2544 B4	F808 B13
2509 I8	F802 A6	2546 C7	F809 B12
2535 B5	F803 B13	2547 F6	F810 C11
2536 B4	F804 B14	2548 D5	F811 C12
2537 B5	F805 B6	2550 H8	F812 H3
2541 D5	F806 C8	2551 G4	F813 C5
2543 B4	F807 C8	2552 H4	F814 C5
2544 B4	F808 B13	2553 H8	F815 D2
2546 C7	F809 B12	2555 F12	F816 D2
2547 F6	F810 C11	2556 G13	F817 D2
2548 D5	F811 C12	2557 F14	F818 E10
2550 H8	F812 H3	2558 F12	F819 H12
2551 G4	F813 C5	2561 F11	F820 D1
2552 H4	F814 C5	2562 H8	F821 D7
2553 H8	F815 D2	2563 H8	F822 D2
2555 F12	F816 D2	2565 D6	F823 D2
2556 G13	F817 D2	2568 A5	F824 F11
2557 F14	F818 E10	2571 D3	F825 F11
2558 F12	F819 H12	2572 E2	F826 F12
2561 F11	F820 D1	2574 E8	F827 E2
2562 H8	F821 D7	2575 E9	F828 E2
2563 H8	F822 D2	2576 D6	F829 F14
2565 D6	F823 D2	2577 F2	F830 F4
2568 A5	F824 F11	2910 E7	F831 F3
2571 D3	F825 F11	3013 H13	F832 E11
2572 E2	F826 F12	3531 C12	F834 I7
2574 E8	F827 E2	3532 C12	F835 I6
2575 E9	F828 E2	3533 A13	F836 H4
2576 D6	F829 F14	3536 C6	F837 I7
2577 F2	F830 F4	3537 C6	F838 G4
2910 E7	F831 F3	3538 C4	F839 E6
3013 H13	F832 E11	3539 D5	F840 E6
3531 C12	F834 I7	3540 E10	F841 E9
3532 C12	F835 I6	3541 F6	F842 F5
3533 A13	F836 H4	3542 E6	F843 F7
3536 C6	F837 I7	3544 F4	F844 E3
3537 C6	F838 G4	3545 G4	F845 F4
3538 C4	F839 E6	3546 H4	F846 H5
3539 D5	F840 E6	3547 H5	
3540 E10	F841 E9	3548 H6	
3541 F6	F842 F5	3549 I7	
3542 E6	F843 F7	3550 H10	
3544 F4	F844 E3	3551 I6	
3545 G4	F845 F4	3552 F5	
3546 H4	F846 H5	3553 I6	
3547 H5		3554 E5	
3548 H6		3555 F5	
3549 I7		3556 E4	
3550 H10		3557 F4	
3551 I6		3559 B12	
3552 F5		3560 B13	
3553 I6		3562 B13	
3554 E5		3563 B14	
3555 F5		3566 E10	
3556 E4		3567 E11	
3557 F4		3570 A12	
3559 B12		3571 A11	
3560 B13		5500 D2	
3562 B13		5501 E2	
3563 B14		5502 E2	
3566 E10		5503 E2	
3567 E11		5541 D4	
3570 A12		5542 D4	
3571 A11		5543 B3	
5500 D2		5544 B3	
5501 E2		5546 C7	
5502 E2		5551 F11	
5503 E2		5554 H10	
5541 D4		5555 D6	
5542 D4		5556 A5	
5543 B3		5557 D6	
5544 B3		5709 F3	
5546 C7		6500 G11	
5551 F11		6501 G9	
5554 H10		6502 I1	
5555 D6		6553 A11	
5556 A5		6554 H8	
5557 D6		6555 A10	
5709 F3		6556 A11	
6500 G11		6557 A11	
6501 G9		7520 C6	
6502 I1		7521-A G4	
6553 A11		7521-B I6	
6554 H8		7522 H5	
6555 A10		7523 C6	
6556 A11		7524 C5	
6557 A11		7525 E11	
7520 C6		7526 G5	
7521-A G4		7527 E5	
7521-B I6		7528 F5	
7522 H5		7529 I8	
7523 C6		7535 A4	
7524 C5		7548 I8	
7525 E11		7549 F11	
7526 G5		7556 F13	
7527 E5		7558 E8	
7528 F5		7560 B12	
7529 I8		7561 B14	
7535 A4		7562 C13	
7548 I8			
7549 F11			
7556 F13			
7558 E8			
7560 B12			
7561 B14			
7562 C13			

8 TEST PART

{SEL_HP_OUT,INT_COPY_ANA,SYS_CLK_11B,L3_MODE,IIS_BCLK_A0,IIS_WS_A0,IIS_DATA_A0,IIS_BCLK_A1,IIS_WS_A1,IIS_DATA_A1,L3_DATA,L3_CLK,NMUTE,PROF_EBU}

{EXT_DIG_IN,DIG_OUT_C,EXT_OPT_IN,DISPL_INT,SYS_RESET,DSA_DATA_CD,DSA_ACK_CD,DSA_STR_CD,KEY_PRESSED,IIS_DATA_CD,IIS_WS_CD,IIS_BCLK_CD,DOBM_CD,SYS_CLK_8W,DIG_IN2,KILL}

{DSA_ACK_CDR,BE_RESET,DSA_STR_CDR,DSA_DATA_CDR,MUTE,ATT,DEEMP,IIS1_MS,SYS_CLK_BE}

{CDR60MEAS1,CDR60CFLG,CDR60CL1,MERR,MERRIN,HALL_V,HALL_U,HALL_W}

{REFSIN,REFCOS,PCSSIN,PCSCOS}

9953

1820
- 2 SYS_CLK_11B
- 3 IIS_DATA_CD (3900 0R / 3901 0R SEL_HP_OUT)
- 5 IIS_WS_A0
- 6 IIS_BCLK_A0
- 8 IIS_DATA_A0
- 9 IIS_WS_A1
- 11 IIS_BCLK_A1
- 12 IIS_DATA_A1
- 13 D5V
- 14 3904 100R SYS_RESET
- 15 HDCD
- 16 LEVEL_A0
- 17 LEVEL_A1
- 18 LEVEL_A2
- 19 DSA_COPY 3902 0R DSA_DATA_CD
- 20 NMUTE
- 21 L3_MODE
- 22 KILL
- 23 PROF_EBU
- 24 100R 3905 INT_COPY_ANA
- 25 EXT_DIG_IN
- 26 DIG_IN2
- 28 DIG_OUT_C
- 29 EXT_OPT_IN

1830-1
- 1 DSA_DATA_CDR
- 2 DSA_ACK_CDR
- 3 DSA_STR_CDR

1812-1 (52207)
- 1 CDR60CL1
- 2 CDR60CFLG
- 3 CDR60MEAS1
- 4 SGND
- 5 MERR
- 6 MERRIN
- 7 HALL_U
- 8 HALL_V
- 9 HALL_W
- 10 PCSSIN
- 11 PCSCOS

1818 (PH-B)
- 1 RXD_TOOL
- 2 TXD_TOOL
- 3 D5V
- 5 TRACE99_RxD
- 6 TRACE99_TxD
- 7 TERMB

1819 (PH-B)
- 1 BKPT
- 2 DSCLK
- 3 DSI
- 4 TDSO
- 5 TCK
- 7 CLK_OUT
- 8 WRITE_TOGGLE
- 9 RESET_MIN

D3V3: 3907 4K7, 3908 1K, 3909 4K7

2600 10n GND_CASE
2601 10n GND_CASE
2603 10n GND_CASE
1831 GND_CASE
2604 10n GND_CASE
2605 10n GND_CASE
2606 10n GND_CASE

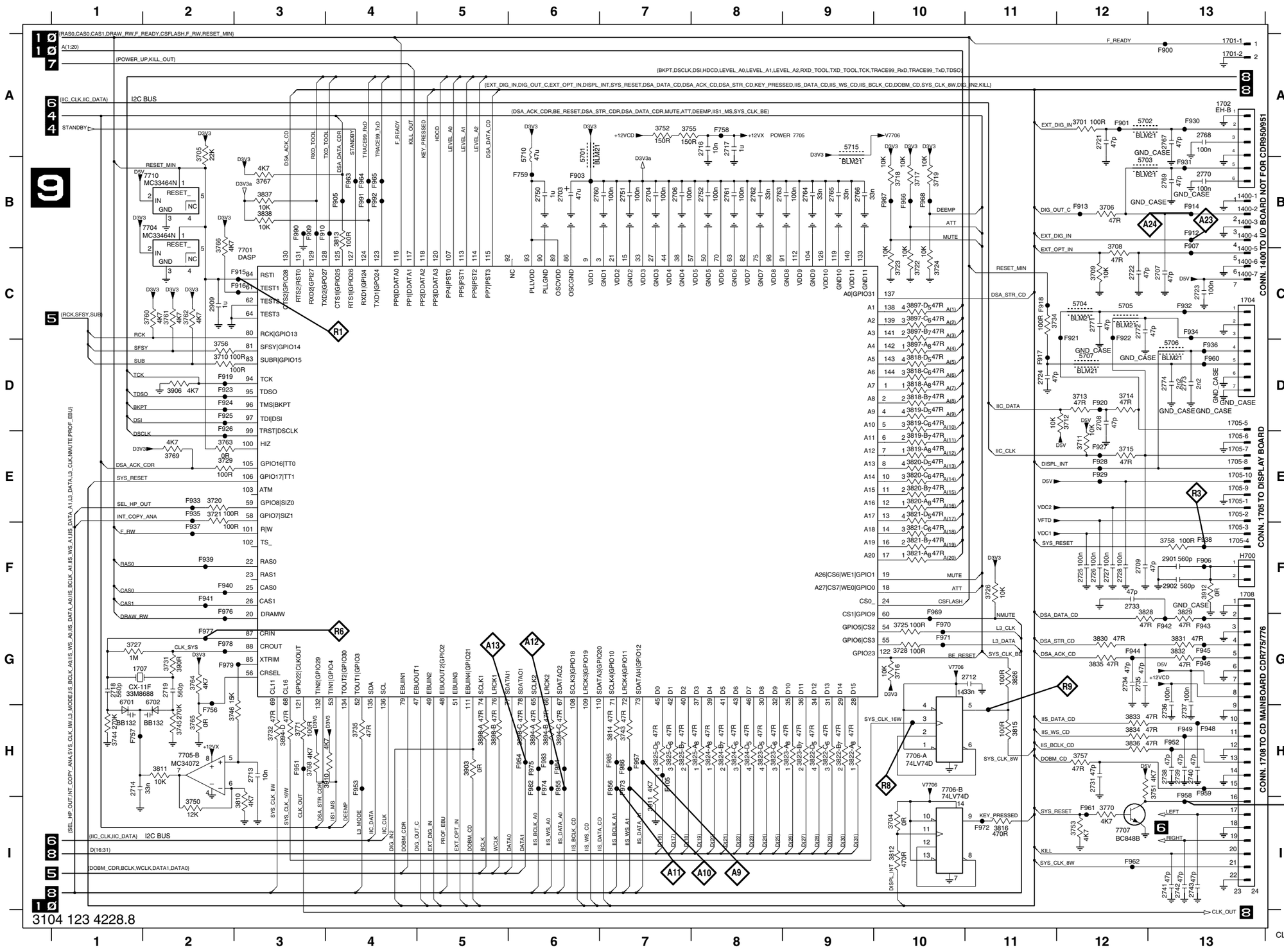
4999 TERMB
4999 {BKPT,DSCLK,DSI,HDCD,LEVEL_A0,LEVEL_A1,LEVEL_A2,RXD_TOOL,TXD_TOOL,TCK,TRACE99_RxD,TRACE99_TxD,TDSO}
4999 CLK_OUT

3104 123 4228.8

CL06532018_066.eps 010300

1812-1 C4
1818 E3
1819 E4
1820 A1
1830-1 A4
1831 B7
2600 A6
2601 A8
2603 B6
2604 C8
2605 C6
2606 C6
3900 B1
3901 B1
3902 D1
3904 C1
3905 E1
3907 E5
3908 E5
3909 E5

CDR MAIN BOARD - CIRCUIT DIAGRAM 9 : DASP MASTER PROCESSOR TESTPOINTS



1400-1 B13	3757 H12	F917 D11
1400-2 B13	3758 F13	F918 C11
1400-3 B13	3760 C2	F919 D2
1400-4 B13	3761 C2	F920 D12
1400-5 C13	3762 C2	F921 D12
1400-6 C13	3763 E2	F922 D12
1400-7 C13	3764 G2	F923 D2
1701-1 A13	3765 H2	F924 D2
1701-2 A13	3766 B2	F925 D2
1702 A13	3767 B3	F926 E2
1704 C13	3768 H3	F927 E12
1705-1 E13	3769 E2	F928 E12
1705-10 E13	3770 I12	F929 E12
1705-2 E13	3771 H3	F930 A13
1705-3 F13	3810 I3	F931 B13
1705-4 F13	3811 H2	F932 C13
1705-5 D13	3812 I10	F933 E2
1705-6 E13	3813 B4	F934 C13
1705-7 E13	3814 H7	F935 E2
1705-8 E13	3815 H11	F936 D13
1705-9 E13	3816 I11	F937 F2
1707 G1	3818-A D10	F938 F13
1708 F13	3818-B D10	F939 F2
2703 B6	3818-C D10	F940 F2
2704 B7	3818-D D10	F941 F2
2706 B7	3819-A E10	F942 G13
2707 C13	3819-B E10	F943 G13
2708 D12	3819-C D10	F944 G12
2709 F12	3819-D D10	F945 G13
2712 G11	3820-A E10	F946 G13
2713 H3	3820-B E10	F948 H13
2714 H1	3820-C E10	F949 H13
2716 A8	3820-D E10	F951 H3
2717 A8	3821-A F10	F952 H13
2718 G1	3821-B F10	F953 H4
2719 G2	3821-C F10	F954 H6
2721 A12	3821-D E10	F955 H6
2722 C12	3822-A H9	F956 H7
2723 C13	3822-B H9	F957 H7
2724 D11	3822-C H9	F958 I13
2725 F12	3822-D H9	F959 H13
2726 F12	3823-A H9	F960 D13
2727 F12	3823-B H9	F961 I12
2728 F12	3823-C H8	F962 I12
2731 H12	3823-D H8	F963 B4
2733 F12	3824-A H8	F964 B4
2734 G12	3824-B H8	F965 B4
2735 G12	3824-C H8	F966 B10
2736 H13	3824-D H8	F967 B10
2737 H13	3825-A H8	F968 B10
2738 H13	3825-B H7	F969 G10
2739 H13	3825-C H7	F970 G10
2740 H13	3825-D H7	F971 G10
2741 I13	3826 G11	F972 I11
2742 I13	3828 G12	F973 H7
2743 I13	3829 G13	F974 H6
2750 B6	3830 G12	F975 H6
2751 B7	3831 G13	F976 G2
2752 B8	3832 G13	F977 G2
2760 B6	3833 H12	F978 G2
2761 B8	3834 H12	F979 G2
2762 B8	3835 G12	F982 H6
2763 B8	3836 H12	F983 H6
2764 B9	3837 B3	F984 H6
2765 B9	3838 B3	F985 H7
2766 B9	3894-A H6	F986 H7
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3731 G2	F759 B6	
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3735 H4	F903 B6	
3743 H7	F905 B4	
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3745 H2	F907 C13	
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3752 A7	F913 B12	
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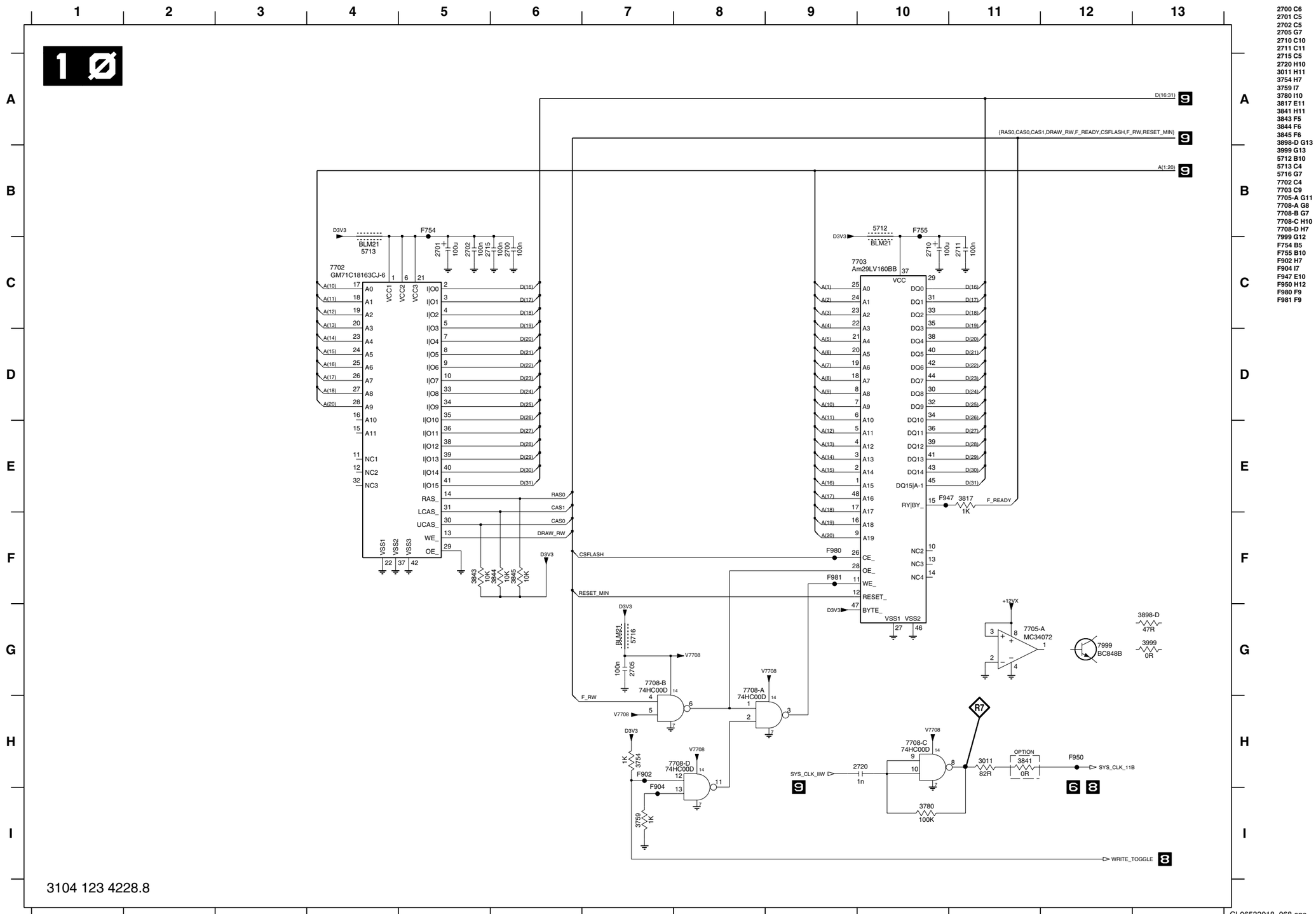
CDR MAIN BOARD - CIRCUIT DIAGRAM 10 : DASP FLASH & DRAM TESTPOINTS



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7708-B G7
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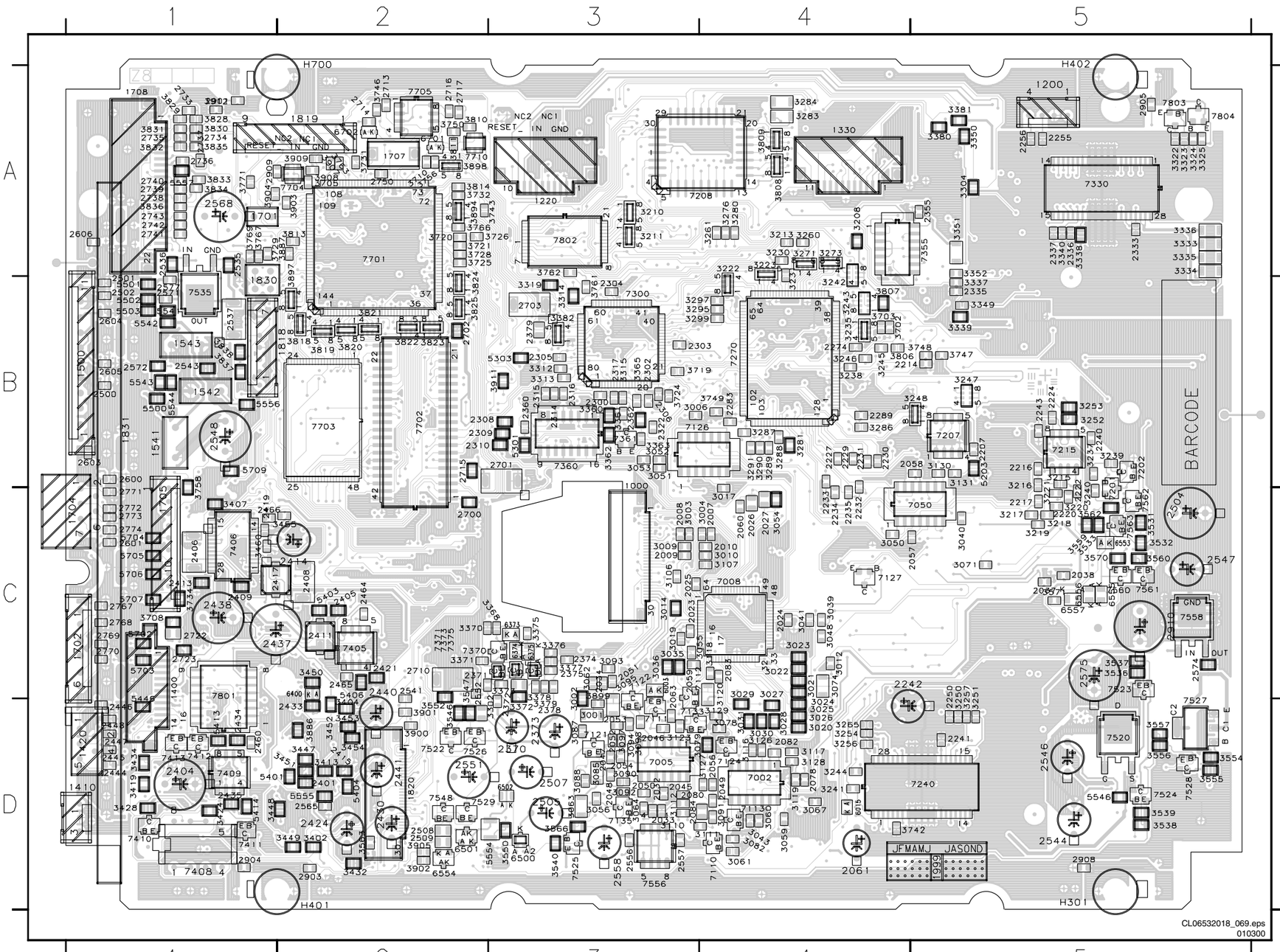
CDR MAIN BOARD .8 - TOP VIEW



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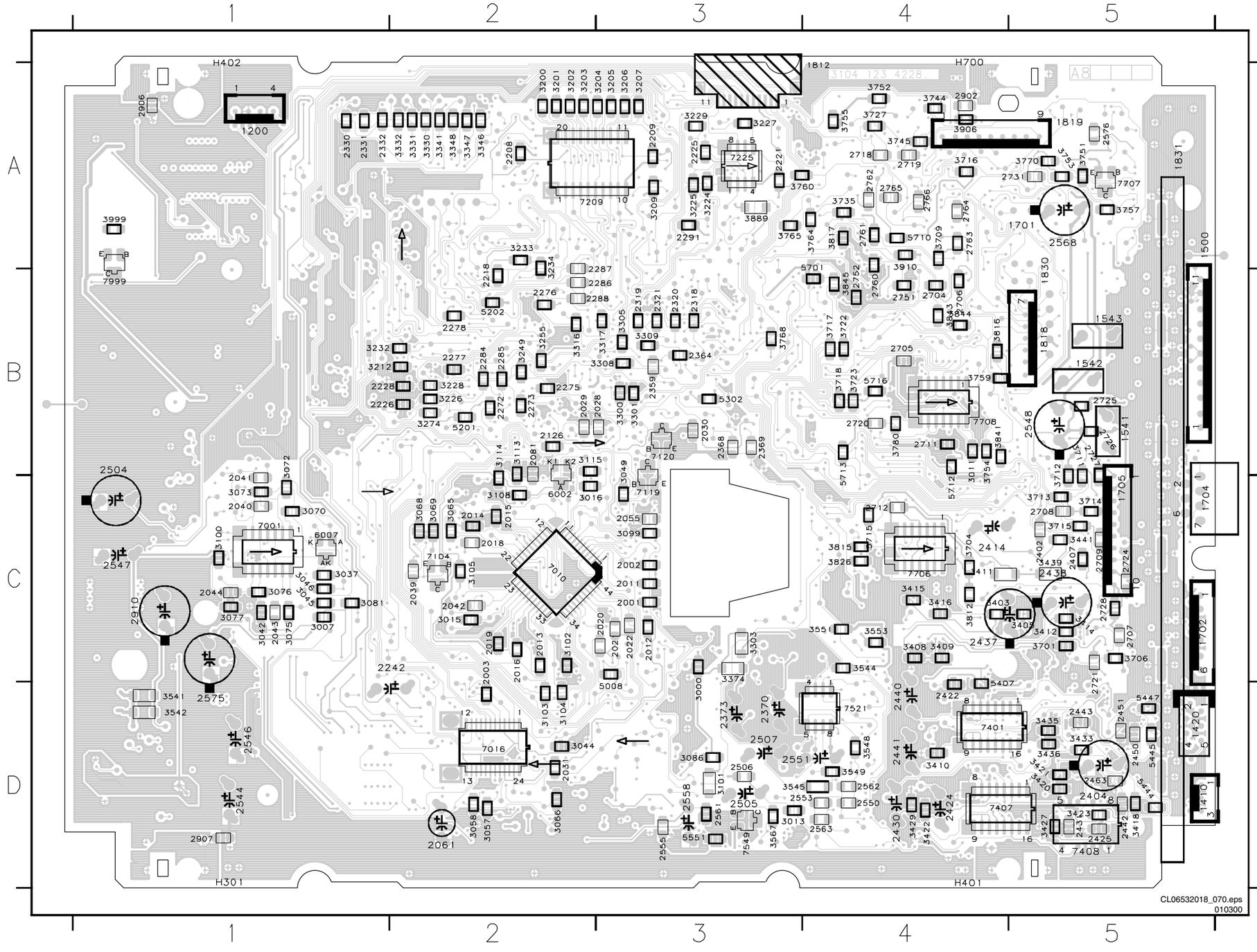
CDR MAIN BOARD .8 - BOTTOM VIEW



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2003	C2	2724	C5	3330	A2	5202	B2				
2011	C3	2725	B5	3331	A2	5302	B3				
2012	C3	2726	B5	3332	A2	5407	D4				
2013	C2	2727	B5	3341	A2	5444	D5				
2014	C2	2728	C5	3346	A2	5445	D5				
2015	C2	2731	A5	3347	A2	5447	D5				
2016	C2	2751	B4	3348	A2	5551	D3				
2018	C2	2752	B4	3374	C3	5701	A4				
2019	C2	2760	B4	3403	C4	5710	A4				
2020	C3	2761	A4	3405	C5	5712	C4				
2021	C3	2762	A4	3408	C4	5713	B4				
2022	C3	2763	A4	3409	C4	5715	C4				
2028	B3	2764	A4	3410	D4	5716	B4				
2029	B2	2765	A4	3411	C4	6002	C2				
2030	B3	2766	A4	3412	C5	6007	C1				
2031	D2	2902	A4	3414	C5	7001	C1				
2039	C2	2906	A1	3415	C4	7010	C2				
2040	C1	2907	D1	3416	C4	7016	D2				
2041	C1	3000	D3	3418	D5	7104	C2				
2042	C2	3007	C1	3420	D5	7119	C3				
2043	C1	3011	B4	3421	D5	7120	B3				
2044	C1	3013	D3	3422	D4	7209	A2				
2055	C3	3015	C2	3423	D5	7225	A3				
2081	B2	3016	C2	3427	D5	7401	D4				
2126	B2	3037	C1	3429	D4	7407	D4				
2208	A2	3042	C1	3433	D5	7521	D4				
2209	A2	3044	D2	3435	D5	7549	D3				
2218	B2	3045	C1	3436	D5	7706	C4				
2221	A3	3046	C1	3439	C5	7707	A5				
2225	A3	3049	B3	3441	C5	7708	B4				
2226	B1	3057	D2	3541	D1	7999	B1				
2228	B1	3058	D2	3542	D1						
2272	B2	3065	C2	3544	C4						
2273	B2	3066	D2	3545	D3						
2275	B2	3068	C2	3548	D4						
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2278	B2	3072	B1	3553	C4						
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2285	B2	3075	C1	3701	C5						
2286	B3	3076	C1	3704	C4						
2287	B3	3077	C1	3706	C5						
2288	B3	3081	C1	3709	A4						
2291	A3	3086	D3	3711	B5						
2318	B3	3099	C3	3712	C5						
2319	B3	3100	C1	3713	C5						
2320	B3	3101	D3	3714	C5						
2321	B3	3102	C2	3715	C5						
2330	A1	3103	D2	3716	A4						
2331	A1	3104	D2	3717	B4						
2332	A1	3105	C2	3718	B4						
2359	B3	3108	C2	3722	B4						
2364	B3	3113	B2	3723	B4						
2368	B3	3114	B2	3727	A4						
2369	B3	3115	B2	3735	A4						
2402	C5	3200	A2	3744	A4						
2407	C5	3201	A2	3745	A4						
2422	D4	3202	A2	3751	A5						
2425	D5	3203	A2	3752	A4						
2431	D5	3204	A3	3753	A5						
2442	D5	3205	A3	3754	B4						
2443	D5	3206	A3	3755	A4						
2450	D5	3207	A3	3757	A5						
2451	D5	3209	A3	3759	B4						
2463	D5	3212	B1	3760	A3						
2506	D3	3224	A3	3764	A4						
2550	D4	3225	A3	3765	A3						
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2555	D3	3227	A3	3770	A5						
2561	D3	3228	B2	3780	B4						
2562	D4	3229	A3	3812	C4						
2563	D4	3232	B1	3815	C4						
2576	A5	3233	A2	3816	B4						
2704	B4	3234	A2	3817	A4						
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2706	B4	3255	B2	3841	B4						
2707	C5	3274	B2	3843	B4						
2708	C5	3300	B3	3844	B4						
2709	C5	3301	B3	3845	B4						
2711	B4	3303	C3	3889	A3						
2712	C4	3305	B3	3906	A4						
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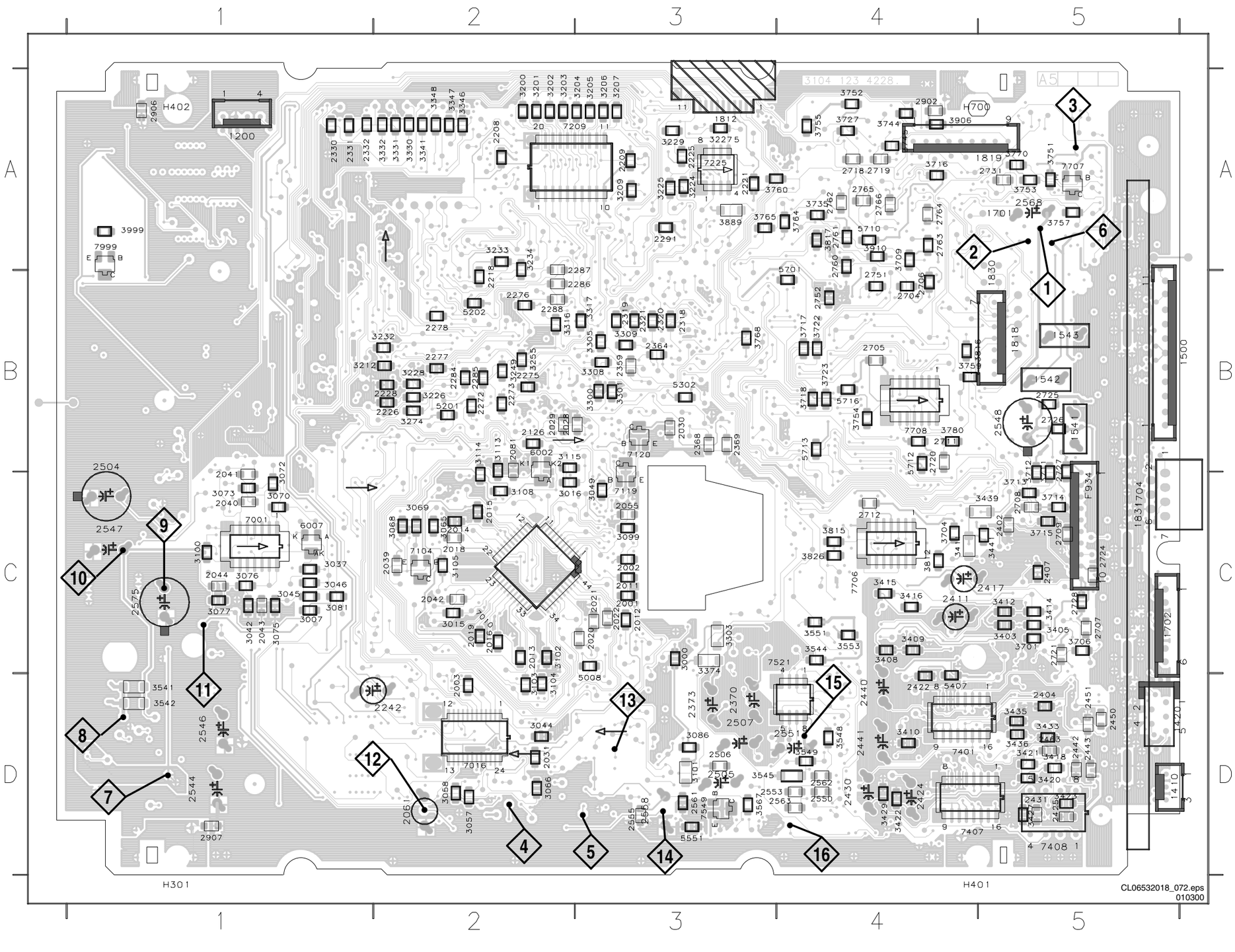
CDR-Mainboard PWB testpoints

CDR MAIN BOARD - BOTTOM VIEW : POWER PART TESTPOINTS



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2002	C3	2724	C5	3341	A2	5716	B4
2003	D2	2725	B5	3346	A2	6002	B2
2011	C3	2726	B5	3347	A2	6007	C1
2012	C3	2727	B5	3348	A2	7001	C1
2013	C3	2728	C5	3374	C1	7010	C2
2014	C2	2751	A5	3403	C5	7016	D2
2015	C2	2751	B4	3405	C5	7104	C2
2016	C2	2752	B4	3408	C4	7119	C3
2018	C2	2760	A4	3409	C4	7120	B3
2019	C2	2761	A4	3410	D4	7209	A2
2020	C3	2762	A4	3411	C4	7225	A3
2021	C3	2763	A4	3412	C5	7401	D4
2022	C3	2764	A4	3414	C5	7407	C4
2026	B2	2765	A4	3415	C4	7521	C4
2029	B2	2766	A4	3416	C4	7549	D3
2030	B3	2902	A4	3418	D5	7706	C4
2031	D2	2906	A1	3420	D5	7707	A5
2039	C2	2907	D1	3421	D5	7708	B4
2040	C1	2000	C3	3422	D4	7999	A1
2041	C1	3007	C1	3423	D5		
2042	C2	3015	C2	3427	D5		
2043	C1	3016	C2	3429	D4		
2044	C2	3037	C1	3435	D5		
2055	C3	3042	C1	3436	D5		
2081	B2	3044	D2	3439	C5		
2126	B2	3045	C1	3441	C5		
2208	A3	3046	C1	3541	D1		
2218	B2	3057	D2	3542	D1		
2221	A3	3058	D2	3544	C4		
2225	A3	3065	C2	3545	D3		
2226	B2	3066	C2	3548	D4		
2228	B2	3068	C2	3549	D4		
2272	B2	3069	C2	3551	C4		
2273	B2	3070	C1	3553	C4		
2275	B2	3072	C1	3567	D3		
2276	B2	3073	C1	3701	C5		
2277	B2	3075	C1	3704	C4		
2278	B2	3076	C1	3706	C5		
2284	B2	3077	C1	3709	A4		
2285	B2	3081	C1	3711	C5		
2286	B3	3086	D3	3712	C5		
2287	B3	3099	C3	3713	C5		
2288	B2	3100	C1	3714	C5		
2291	A3	3101	D3	3715	C5		
2318	B3	3102	C2	3716	A4		
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2321	B3	3105	C2	3722	B4		
2330	A1	3108	K2	3723	B4		
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2364	B3	3200	A2	3745	A4		
2368	B3	3201	A2	3751	A5		
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2402	D5	3203	A2	3753	A5		
2404	D5	3204	A3	3754	B4		
2407	C5	3205	A3	3755	A4		
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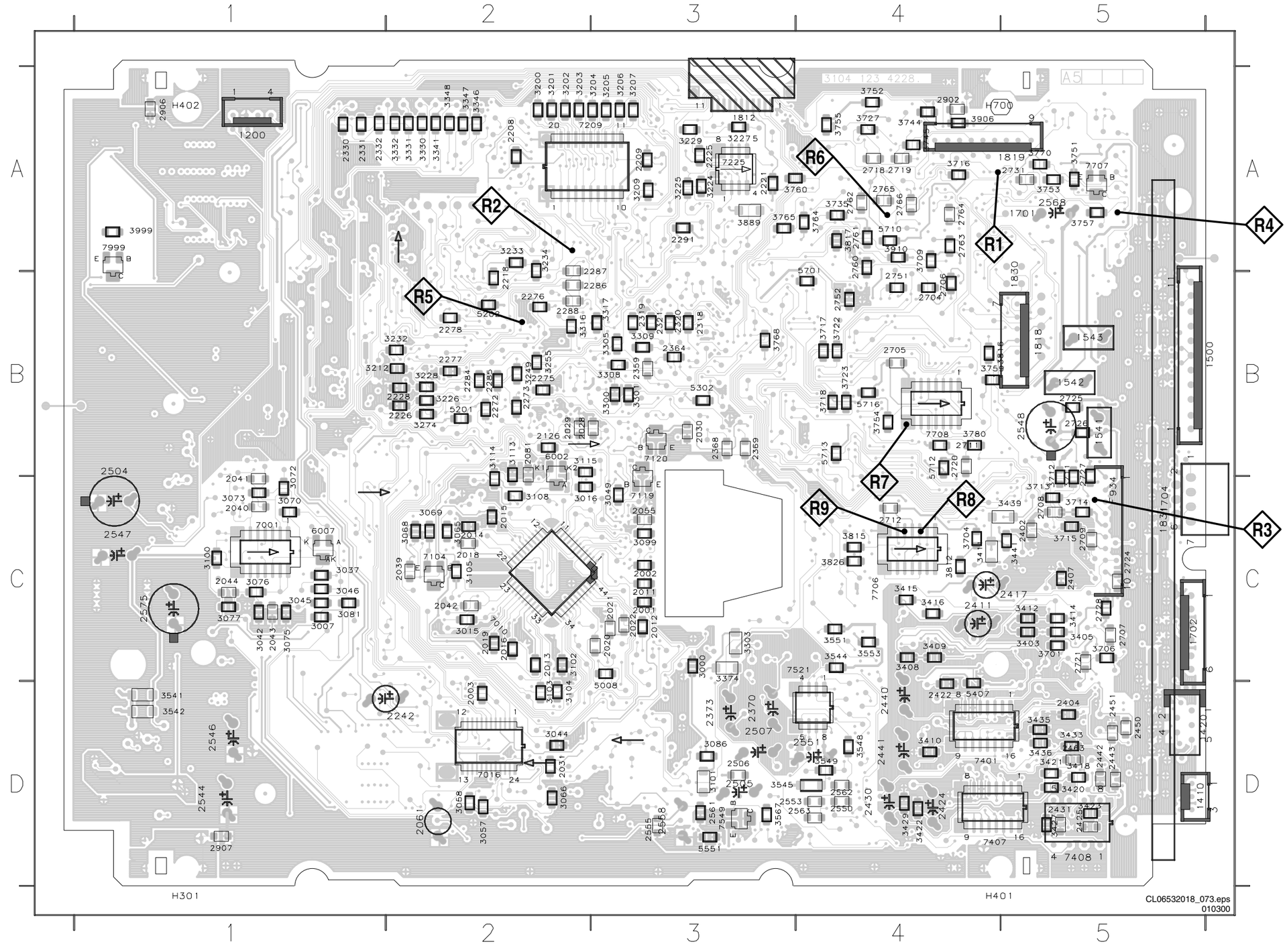
2431	D5	3209	A3	3760	A3		
2442	D5	3212	B1	3764	A4		
2443	D5	3224	A3	3765	A3		
2450	D5	3225	A3	3768	B3		
2451	D5	3226	B2	3770	A5		
2463	D3	3227	A3	3780	B4		
2506	D3	3228	B2	3812	C4		
2550	D4	3229	A3	3815	C4		
2553	D3	3232	B2	3816	B4		
2562	D4	3233	A2	3817	A4		
2563	D4	3234	A2	3826	C4		
2704	B4	3249	B2	3889	A3		
2705	B4	3255	B2	3906	A4		
2706	B4	3274	B2	3910	A4		
2707	C5	3300	B2	3990	A1		
2708	C5	3301	B3	5008	D3		
2709	C5	3303	C3	5201	B2		
2711	B4	3305	B3	5202	B2		
2712	C4	3308	B3	5302	D3		
2718	A4	3309	B3	5407	D4		
2719	A4	3316	B2	5551	D3		
		3317	B3	5701	A4		
		3330	A2	5710	A4		

CDR MAIN BOARD - BOTTOM VIEW : RESET & CLOCK TESTPOINTS



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2001 C3 2721 C5 3332 A2 5713 B4
2002 C3 2724 C5 3341 A2 5716 B4
2003 D2 2725 B5 3346 A2 6002 B2
2011 C3 2726 B5 3347 A2 6007 C1
2012 C3 2727 B5 3348 A2 7001 C1
2013 C2 2728 C5 3374 C3 7010 C2
2014 C2 2751 A5 3403 C5 7016 D2
2015 C2 2751 B4 3405 C5 7104 C2
2016 C2 2752 B4 3408 C4 7119 C3
2018 C2 2760 A4 3409 C4 7120 B3
2019 C2 2761 A4 3410 D4 7209 A2
2020 C3 2762 A4 3411 C4 7225 A3
2021 C3 2763 A4 3412 C5 7401 D4
2022 C3 2764 A4 3414 C5 7407 D4
2028 B2 2765 A4 3415 C4 7521 C4
2029 B2 2766 A4 3416 C4 7549 D3
2030 B3 2907 A4 3418 D5 7706 C4
2031 D2 2906 A1 3420 D5 7707 A5
2039 C2 2907 D1 3421 D5 7708 B4
2040 C1 3000 C3 3422 D4 7999 A1
2041 C1 3007 C1 3427 D5
2042 C2 3015 C1 3428 D5
2043 C1 3016 C2 3429 D4
2044 C1 3037 C1 3433 D5
2055 C3 3042 C1 3435 D5
2061 B3 3043 C1 3436 D5
2126 B2 3044 D1 3439 C5
2208 A2 3045 D2 3441 C5
2209 A3 3046 C1 3541 D1
2218 B2 3049 C3 3542 D1
2221 A3 3057 D2 3544 C4
2225 A3 3058 D2 3545 D3
2226 B2 3065 C2 3548 D4
2228 B2 3066 D2 3549 D4
2272 B2 3068 C2 3551 C4
2273 B2 3069 C1 3553 C4
2274 B2 3070 C1 3561 D3
2275 B2 3072 C1 3567 D3
2276 B2 3073 C1 3701 C5
2277 B2 3075 C1 3704 C4
2278 B2 3076 C1 3706 C5
2284 B2 3077 C1 3709 A4
2285 B2 3081 C1 3711 C5
2286 B3 3086 D3 3712 C5
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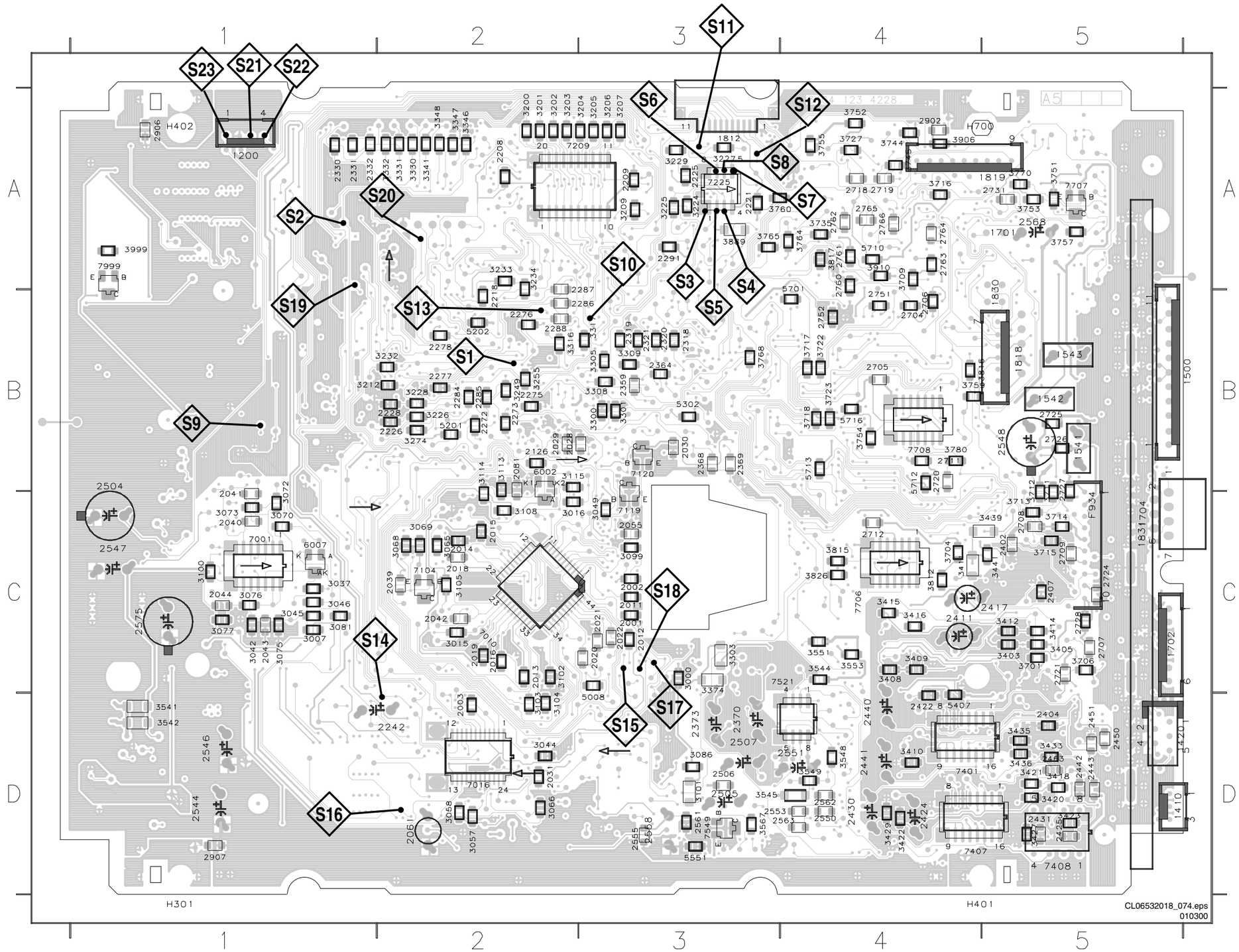
2288 B2 3100 C3 3714 C5
2291 A3 3101 D3 3715 C5
2318 B3 3102 C2 3716 A4
2319 B3 3103 D2 3717 B4
2320 B3 3104 D2 3718 B4
2321 B3 3105 C2 3722 B4
2330 A1 3108 C2 3723 B4
2331 A1 3113 B2 3725 A4
2332 A1 3114 B2 3735 A4
2359 B3 3115 B2 3744 A4
2364 B3 3200 A2 3745 A4
2368 B3 3201 A2 3751 A5
2369 B3 3202 A2 3752 A4
2402 C5 3203 A2 3753 A5
2404 D5 3204 A3 3754 B4
2407 C5 3205 A3 3755 A4
2422 D4 3206 A3 3757 A5
2425 D5 3207 A3 3759 B4
2431 D5 3209 A3 3760 A3
2442 D5 3212 B1 3764 A4
2443 D5 3224 A3 3765 A3
2450 D5 3225 A3 3768 B3
2451 D5 3226 B2 3770 A5
2463 D5 3227 A3 3780 B4
2506 D3 3228 B2 3812 C4
2550 D4 3229 A3 3815 C4
2551 D3 3232 B2 3816 B4
2555 D3 3233 A2 3817 A4
2561 D3 3234 A2 3826 C4
2562 D4 3249 B2 3889 A3
2563 D4 3255 B2 3906 A4
2704 B4 3272 B2 3910 A4
2705 B4 3300 B3 3999 A1
2706 B4 3301 B3 5008 D3
2707 C5 3303 C3 5201 B2
2708 C5 3305 B3 5202 B2
2709 C5 3308 B3 5302 B3
2711 B4 3309 B3 5407 D4
2712 C4 3316 B2 5551 D3
2718 A4 3317 B2 5701 A4
2719 A4 3330 A2 5710 A4

CDR MAIN BOARD - BOTTOM VIEW : SERVO TESTPOINTS



1812 A3 2720 B4 3331 A2 5712 B4
2001 C3 2721 C5 3332 A2 5713 B4
2002 C3 2724 C5 3341 A2 5716 B4
2003 C3 2725 B5 3346 A2 6002 B2
2011 C3 2726 B5 3347 A2 6007 C1
2012 C3 2727 B5 3348 A2 7001 C1
2013 C2 2728 C5 3374 C3 7010 C2
2014 C2 2751 A5 3403 C5 7016 D2
2015 C2 2751 B4 3405 C5 7104 D2
2016 C2 2752 B4 3408 C4 7119 C3
2018 C2 2760 A4 3409 C4 7120 B3
2019 C2 2761 A4 3410 D4 7209 A2
2020 C3 2762 A4 3411 C4 7225 A3
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2022 C3 2764 A4 3414 C5 7407 D4
2028 B2 2765 A4 3415 C4 7521 C4
2029 B2 2766 A4 3416 C4 7549 D3
2030 B2 2902 A4 3419 D5 7706 C4
2031 D2 2906 A1 3420 D5 7707 A5
2039 C2 2907 D1 3421 D5 7708 B4
2040 C1 3000 C3 3422 D4 7999 A1
2041 C1 3007 C1 3423 D5
2042 C2 3015 C2 3427 D5
2043 C1 3016 C2 3429 D4
2044 C1 3037 C1 3433 D5
2045 C1 3042 D2 3435 D5
2051 B2 3044 D2 3436 D5
2126 B2 3045 C1 3439 C5
2208 A2 3046 C1 3441 C5
2209 A3 3049 C3 3541 D1
2218 B3 3057 D2 3542 C4
2221 A3 3058 D2 3544 C4
2225 A3 3065 C2 3545 D3
2226 B2 3066 D2 3548 D4
2228 B2 3068 C2 3549 D4
2272 B2 3069 C2 3551 C4
2273 B2 3070 C1 3553 C4
2275 B2 3072 C1 3567 D3
2276 B2 3073 C1 3701 C5
2277 B2 3075 C1 3704 C4
2278 B2 3076 C1 3706 C5
2284 B2 3077 C1 3709 A4
2285 B2 3081 C1 3711 C5
2286 B3 3086 C3 3712 C5
2287 B3 3099 C3 3713 C5
2288 B2 3100 C1 3714 C5
2291 A3 3101 D3 3715 C5
2318 B3 3102 C2 3716 B4
2319 B3 3103 C2 3717 B4
2320 B3 3104 D2 3718 B4
2321 B3 3105 C2 3722 B4
2330 A1 3106 C2 3723 B4
2331 A1 3113 B2 3727 A4
2332 A1 3114 B2 3735 A4
2359 B3 3115 B2 3744 A4
2364 B3 3200 A2 3745 A4
2368 B3 3201 A2 3751 A5
2369 B3 3202 A2 3752 A4
2402 C5 3203 A2 3753 A5
2404 D5 3204 A3 3754 B4
2407 C5 3205 A3 3755 A4
2422 D5 3206 A3 3757 A5
2425 D5 3207 A3 3759 B4
2431 D5 3209 A3 3760 A3
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2443 D5 3224 A3 3765 A3
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2555 D3 3233 A2 3817 A4
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2562 D4 3255 B2 3889 A3
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2708 C5 3305 B3 5202 B2
2709 C5 3308 B3 5302 B3
2711 B4 3309 B3 5407 D4
2712 C4 3316 B2 5551 D3
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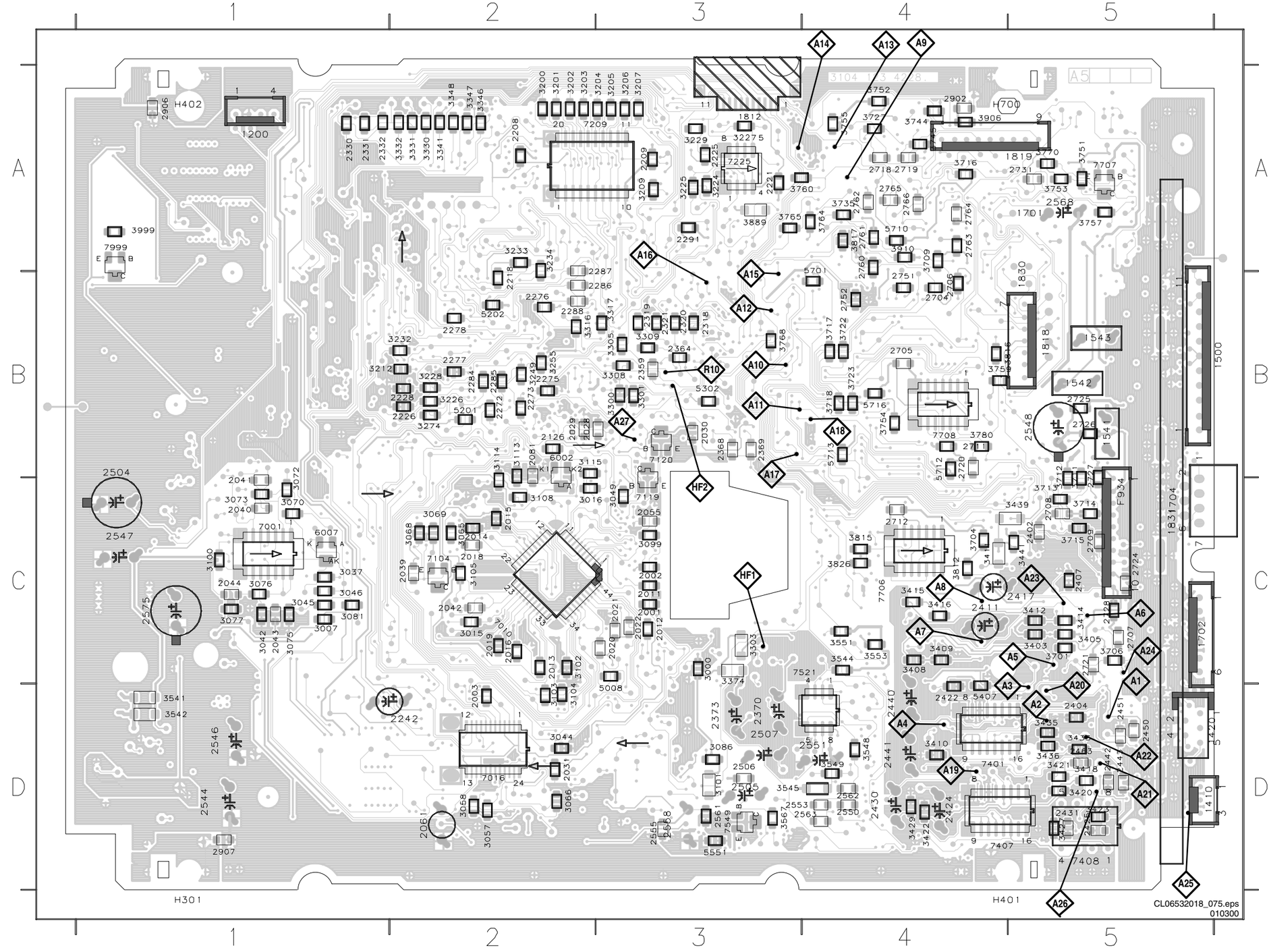
2719 A4 3330 A2 5710 A4

CDR MAIN BOARD - BOTTOM VIEW : AUDIO TESTPOINTS



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2002	C3	2724	A5	3341	A2	5715	B4
2003	D2	2725	B5	3346	A2	6002	B2
2011	C3	2726	B5	3347	A2	6007	C1
2012	C3	2727	B5	3348	A2	7001	C1
2013	C3	2728	C5	3374	C3	7010	C2
2014	C2	2751	C5	3403	C5	7016	D2
2015	C2	2751	B4	3405	C5	7104	C2
2016	C2	2752	B4	3408	C4	7119	C3
2018	C2	2760	A4	3409	C4	7120	C3
2019	C2	2761	A4	3410	D4	7209	A2
2020	C3	2762	A4	3411	C4	7225	A3
2021	C3	2763	A4	3412	C5	7401	D4
2022	B3	2764	A4	3414	C5	7407	C4
2028	B2	2765	A4	3415	C4	7521	C4
2029	B2	2766	A4	3416	C4	7549	D3
2030	B3	2902	A4	3418	D5	7706	C4
2031	D2	2906	A1	3420	D5	7707	A5
2039	C2	2907	D1	3421	D5	7708	B4
2040	C1	3000	C3	3422	D4	7999	A1
2041	C1	3007	C1	3423	D5		
2042	C2	3015	C2	3427	D5		
2043	C1	3016	C2	3429	D4		
2044	C1	3037	C1	3433	D5		
2055	C3	3042	C1	3435	D5		
2081	B2	3044	D2	3436	D5		
2126	B2	3045	C1	3439	C5		
2208	A3	3046	C1	3441	C5		
2209	A3	3049	C3	3541	D1		
2218	B2	3057	D2	3542	D1		
2221	A3	3058	D2	3544	C4		
2225	A3	3065	C2	3545	D3		
2226	B2	3066	C2	3548	D4		
2228	B2	3068	C2	3549	D4		
2272	B2	3069	C2	3551	C4		
2273	B2	3070	C1	3553	C4		
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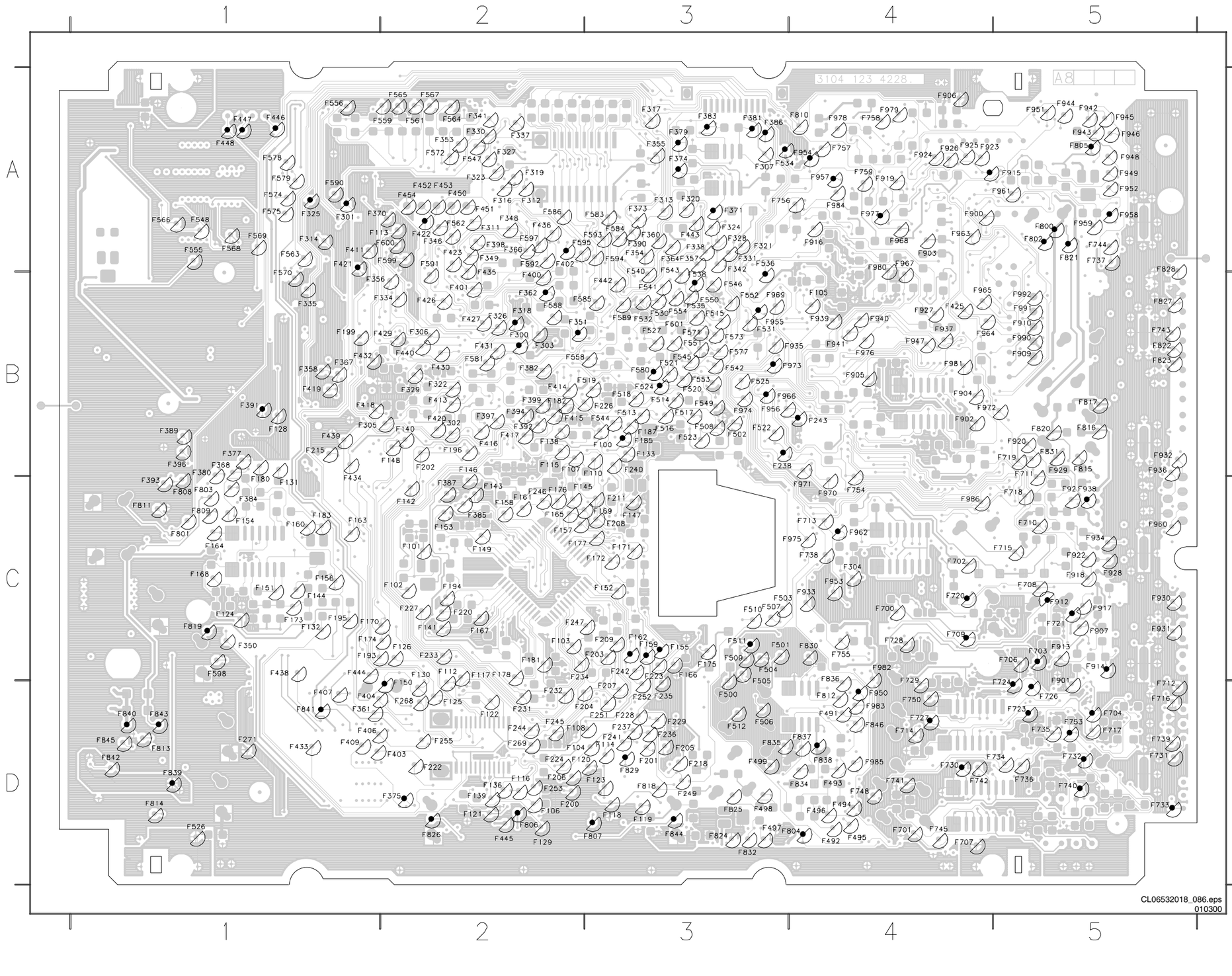
2287	B3	3099	C3	3713	C5		
2288	B2	3100	C1	3714	C5		
2291	A3	3101	D2	3715	C5		
2318	B3	3102	D2	3716	C4		
2319	B3	3103	D2	3717	B4		
2320	B3	3104	D2	3718	B4		
2321	B3	3105	C2	3722	B4		
2330	A1	3108	B2	3723	B4		
2331	A1	3113	B2	3727	A4		
2332	A1	3114	B2	3735	A4		
2359	B3	3115	B2	3744	A4		
2364	B3	3200	A2	3745	A4		
2368	B3	3201	A2	3751	A5		
2369	B3	3202	A2	3752	A4		
2402	C5	3203	A2	3753	A5		
2404	D5	3204	A3	3754	B4		
2407	C5	3205	A3	3755	A4		
2422	D4	3206	A3	3757	A5		
2425	D5	3207	A3	3759	B4		
2431	D5	3209	A3	3760	A3		
2442	D5	3212	B1	3764	A4		
2443	D5	3224	A3	3765	A3		
2450	D5	3225	A3	3768	B3		
2451	D5	3226	B2	3770	A5		
2463	D5	3227	A3	3780	B4		
2506	D3	3228	B2	3812	C4		
2550	D4	3229	A3	3815	C4		
2553	D3	3232	B2	3816	B4		
2555	D3	3233	A2	3817	A4		
2561	D3	3234	A2	3826	C4		
2562	D4	3249	B2	3889	A3		
2563	D4	3255	B2	3906	A4		
2704	B4	3274	B2	3910	A4		
2705	B4	3300	B3	3999	A1		
2706	B4	3301	B3	5008	D3		
2707	C5	3303	B3	5201	B2		
2708	C5	3305	B3	5202	B2		
2709	C5	3308	B3	5302	B3		
2711	B4	3309	B3	5407	D4		
2712	C4	3316	B2	5551	D3		
2718	A4	3317	B3	5701	A4		
2719	A4	3330	A2	5710	A4		

CDR MAINBOARD: SURVEY OF TESTPOINTS



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